



Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 15 West 38th Street, New York.

CABLE ADDRESS: IRWORLD, NEW YORK.

HENRY C. PEARSON, Editor

Vol. 47.

NOVEMBER 1, 1912.

No. 2

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and dependencies and Mexico. To the Dominion of Canada and all other countries, \$3.50 (or equivalent funds) per year, postpaid.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank or draft, Postoffice or Express money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Postal Order, payable as above.

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LESSONS FROM THE RUBBER SHOW.

NOW that the Exposition has come and gone the natural question arises—"What has it taught us?" It certainly should have taught us something, as it is hardly credible that this first experience in rubber shows in this country should have passed by without leaving certain lessons more or less valuable with the trade. As a matter of fact, the expression was not infrequently overheard in conversations between exhibitors at the Exposition: "Yes, this is a very good show—but wait until you see the next."

Trade expositions may properly be divided into three kinds—those that are distinctly technical in their character, that are intended only for people directly interested in that particular trade, and without any purpose of attracting outside attention; second, those that are planned expressly to attract the general public, and which carefully avoid everything of a too technical character; and third, those that seek to combine these two functions, having enough of a technical character to appeal to all those associated with the particular trade, and enough of general interest to attract the public at large. The Rubber Exposi-

sition just held belonged to this third class, but undoubtedly it was much stronger on its technical side than it was in its general appeal to the public at large. Viewed as a rubber show intended for rubber men, it left little to be desired. The exhibits of crude rubber, reclaimed rubber, compounding ingredients and manufacturing machinery were full and varied, and covered the ground with satisfactory completeness. But in the department of manufactured goods the same cannot be said, for while certain manufacturers made admirable exhibits, there were important branches of the rubber manufacturing industry which were practically unrepresented.

The exhibitors of crude rubber cannot be complimented too highly on the intelligence, enthusiasm and thoroughness with which they did their work. Brazil exhibited with a lavish hand—nor was the Middle East far behind. Both wild rubber from the Amazon and plantation rubber from the Federated Malay States and Ceylon were forwarded to the exhibition in generous quantity and impressive variety. It was altogether the finest collection of crude rubber ever brought together in this country. A certain rubber mill superintendent, after going over these exhibits carefully, remarked: "I have learned more about crude rubber in the ten days of this show than I had ever learned before in any ten years in the factory." Of reclaimed rubber and of compounding ingredients there was also a comprehensive exhibit; while the foundry men, with their machinery set up and in motion, contributed a great deal to the importance and value of the enterprise. Undoubtedly, all these groups of exhibitors—crude rubber producers, planters and importers, manufacturers of compounding ingredients and makers of machinery, found their ten days at the Exposition time profitably spent. Many of them indeed expressed great satisfaction over the results of their participation.

But among the manufacturers of finished rubber goods who attended the show and who undoubtedly derived great benefit from what they observed, there must have been a number who regretted that they had not seized upon this opportunity to exploit their products in a large way. Some of them when approached before the exhibition took the stand that they could see no particular benefit for them in showing their goods to other rubber men—which undoubtedly was true. But in a city like New York, with its five million permanent population and with its half million floating population, more or less—it would have been possible at a show of this character, covering so large a floor space, to have secured an extremely large attendance of people outside of the rubber trade—

consumers of rubber goods; and to this class the rubber manufacturer might have appealed, with no little profit to himself. And that undoubtedly is the chief lesson learned from the first rubber show, the result of which will be shown at the second American Rubber Exposition, whenever that may be held. There is a great deal connected with many lines of rubber manufacture that could be made extremely interesting to the general public. There are many articles made almost exclusively by hand, which, had they been manufactured at this show would have proved great centers of attraction. Some of the footwear manufacturers have gone to considerable expense in sending demonstrators around the country—and even abroad—to explain and to illustrate, by the actual operation, the making of rubber footwear. It is thought worth while to give the demonstration even before small groups of people. At an exposition in such a place as New York it would be possible to have thousands of spectators during a single day. The public can always be relied on to attend any sort of exhibition, if it is properly encouraged.

Nor would the attendance of the general public in large numbers interfere with the success of the more technical side of an exhibition, especially in a place like the Grand Central Palace, where (as was the case in the recent show) the technical departments were grouped chiefly on the upper floors, the main floor being reserved for exhibits of a more general character.

One of the speakers at the concluding banquet held at the Plaza said that if he had had his way, the public school children of New York and the members of all the commercial organizations would have been brought in to see the wonderful rubber display. It might not be feasible to include all the public school children of New York at such an exhibition, as their number runs in the hundreds of thousands; but certainly it would be beneficial, not only to the students, but to all exhibitors whose display was of a general character, if the older classes of the public schools should attend. Quite irrespective, however, of any such special arrangement for any particular class of visitors, it is always possible in this great metropolis to secure a large attendance of desirable people at an interesting trade exhibition.

One feature of the recent show—which on another occasion would undoubtedly be much enlarged upon, because it was one of the most successful features of the Exposition—consisted of the moving pictures. There were two of these moving picture shows, one on the main floor under the auspices of the Brazilian exhibit, the other

on the second floor under the auspices of the Federated Malay States. Both attracted a great deal of attention, and to many of the visitors proved the most interesting part of the exhibition. The plantation pictures were particularly to be commended, as they set forth in such orderly fashion the whole process of rubber culture in the East, showing the clearing of the forests, the preparing of the ground for the seed, the planting of the seed, the destruction of weeds and insects, the tapping of the trees, the gathering of the latex, its coagulation, the preparation of the rubber for the market and its final shipment to the rubber centers of Europe. This feature could be—and probably would be at another exhibition—made much more prominent, and with most gratifying results.

The management of the recent Exposition is certainly to be congratulated. It was a most creditable achievement, far beyond the expectations of many American rubber men. But by reason of the lessons taught by this first experience, the next exposition (whenever that may occur) will undoubtedly be more complete, more fully rounded out and symmetrical. It will not only be highly instructive from a technical standpoint to rubber men, but will be equally attractive to the public at large.

THE ECHO.

THREE seems to be one persistent echo in the air today which sounds like "specifications, physical tests and chemical analysis." Wherever we turn that echo greets us. The consumer of rubber products is testing his hose and belting and what not; the manufacturer of rubber goods is determining by chemical analysis the quality of his raw material; and the producer of these raw materials is, as a matter of course, compelled to gather accurate information about his goods before he sells them. It does not astonish us, therefore, when we hear that the producers of crude rubber in the Middle East are establishing rubber testing stations in Europe and at the plantations, for the purpose of gathering accurate information concerning the physical and chemical properties of their product.

Brazil, the mother country of the rubber industry, is not lagging in this respect, and if we are to believe current reports, the delegates who attended the recent International Rubber Conference in New York were on the lookout for a scientific adviser in this matter. So far as Brazil is concerned, it is most natural that she should seek to establish in New York a research

laboratory which would study the South American rubber problem in a most thorough manner.

One of the rubber experts made this suggestion at one of the sessions of the Conference: "Brazil stands today at the point of decision. It will be possible for her now to take out 'insurance' for her rubber forests; or, if she chooses, she may neglect the opportunity, and lose forever her hold on that commodity. If she wishes to protect it, she will receive from America the most friendly co-operation and advice. The best solution of the problem lies very probably in the establishment of a permanent testing laboratory here in the North, and possibly an additional one at Pará, under the direct management of the Federal Government of Brazil. The New York laboratory would then be in a position to test the rubber according to conditions which prevail in the United States. This station would also be available as an umpire in cases of dispute between manufacturers and brokers."

The suggestion provoked not a little discussion. Something may yet come of it.

THE APPARENT HAPHAZARDNESS OF GREAT DISCOVERIES.

SOME modern philosopher has observed that "it's generally the fellow who doesn't know any better who does the thing that can't be done. You see, the blamed fool doesn't know it can't be done, so he goes ahead and does it"—a sententious observation, which contains more truth than is usually the case with such aphorisms.

Many of the most revolutionary inventions and discoveries in the history of industrial development appear to have been reached in a thoroughly haphazard way—seem in fact to have been stumbled upon in the dark. There was Goodyear, for example—to come down at once to the realm of rubber. Everybody knows how he got the idea of vulcanization. Practically speaking, it flew up and hit him. He was the most surprised man in a dozen townships—he could scarcely believe his eyes.

Then there was Christopher Columbus, whose discovery of America our Italian citizens and a few others celebrate with much fervor with every recurring October 12. When the great American continent and its outlying islands popped up in front of him it was the surprise of the centuries.

But this haphazardness is apparent—rather than

real. It is true enough that Columbus stumbled on a new continent, but that was because he was looking for a continent. He made a great discovery because he was bent on a great discovery. The thing he found was not the thing he was looking for, but he never would have located America if he had not been out looking for Asia.

Goodyear's case was very much the same. That accidental knock against the stove told him that heat and sulphur were the secret of rubber. That particular hit was pure accident, but he had been hitting around in all directions for a number of years, and that was the way he came to hit the stove.

Year after year he had been at work trying to find something that would make rubber work. First he mixed it with magnesia. That seemed to hold out promise; but it was a blind lead and he had to abandon it. Then he boiled his rubber and magnesia in quicklime and water, but that didn't yield up the secret he was after. Then he washed his rubber with nitric acid. He was going in the right direction, but still was far from the goal.

But it was only a question of time when his persistence—you might say his fanaticism—in this quest would compel success. Great discoveries seem to come by accident, but it is a noticeable fact that they come to those who are bent on making great discoveries. That quick transformation that took place in Goodyear's handful of rubber and sulphur when it struck the hot stove would not have meant anything to the ordinary man—he never would have given it a second thought. But to Goodyear's mind—as sensitive to rubber impressions as the delicate mechanism of wireless telegraphy is to its own peculiar electrical waves—it was a complete revelation. His years of search were over—the secret was his. So it may be stated, without much fear of contradiction, that great discoveries, so far, from being of incidental and haphazard origin, follow as definite a law of cause and effect as any that obtain in the ordering of the universe.

The aphorism quoted at the beginning of this humble disquisition may therefore properly be revised as follows: "The fellow who does the thing that can't be done is the fellow who knows that it can be done, if he can only find out the way to do it, and who keeps hunting around for the way to do it twenty-four hours a day—year in and year out—until all of a sudden he plumps straight into it."

The Third International Rubber Exposition.

A FINE DISPLAY OF CRUDE AND MANUFACTURED RUBBER. THE October number of THE INDIA RUBBER WORLD was called a "Special Exposition Number," and it contained nearly twenty pages of matter referring to the Third International Rubber and Allied Trades Exposition, giving lists of the delegates and commissioners who had been appointed by various governments and commercial organizations, describing the exhibits that were to be seen, and containing many photographs of the commissioners, exhibitors and exhibits. But inasmuch as that issue came from the press on the opening day of the exhibition, and as all the matter referring to that event had necessarily to be prepared somewhat in advance, it was not possible to cover the ground as fully as the importance of the event demanded. It has been found necessary, therefore, to de-

mottled green rubber—the work of the Manhattan Rubber Co. The luncheon itself was voted substantial and satisfying. It consisted of blue points, consommé, salmon salad with lobster sauce, *filet mignon*, celery salad, with generous contributions of Mumm's Extra Dry, the beverage which cheers but does not inebriate—when used with discretion; with coffee, crackers and Camembert.

Mr. H. C. Pearson, vice-president of the Exposition, presided at the luncheon, and introduced with sundry happy commentaries the various speakers, who included Admiral Carvalho, of the Brazilian Navy; Dr. Eugenio Dahne, Commissioner General of Brazil; Mr. Cyril E. S. Baxendale, of the Federated Malay States; Mr. Wilbur A. Anderson, Commissioner for the Hawaiian Islands, and Prof. William Goodyear,



THE PRESS LUNCHEON.

vote almost equal space in the present issue to features of the Exposition that could not be described in advance. Accordingly a considerable part of the present number of this paper will be found to be devoted to the Rubber Exposition. No apology need be offered for this fact, because it will be admitted that it was an event of exceeding importance to the trade; and as another exposition is not likely to be held for some time—certainly not for two or three years—it seems quite the wiser course for a journal devoted to the rubber industry to let other matters wait until a later issue, and to surrender to the great Rubber Exposition recently held in New York the space to which its magnitude and the interest it has created seem to entitle it.

THE PRESS LUNCHEON.

The day before the Exposition was formally opened to the public it was opened privately for inspection by members of the press, and in connection with this press view there was a luncheon, attended by about 130 people. It was a very successful affair, and unique in several of its features. It was held in the large restaurant located on the ground floor of the Grand Central Palace. The menu cards were printed on

of the Brooklyn Institute of Arts and Sciences, a son of Charles Goodyear.

THE FORMAL OPENING OF THE EXPOSITION.

The Exposition was formally opened to the public at 12 o'clock, Monday, September 23. A large space in the centre of the main floor had been left clear of exhibits and was filled with chairs facing a raised platform. At the time set for the opening ceremonies, all the chairs—accommodating about 300—had been filled and there were several hundred people crowded around the seats, back of them, and in the balconies looking down.

In the absence of Governor John A. Dix, president of the Exposition, who was unable to attend by reason of his official duties, the chair was occupied by Mr. Henry C. Pearson, vice-president of the Exposition. On the platform with him were Commissioner of Docks, Calvin Tompkins, representing the City of New York; A. Staines Manders, organizing manager of the Exposition; Miss D. Fulton, secretary of the Exposition; Mr. A. W. Stedman, Commissioner of the Commercial Association of Amazonas; Dr. Eugenio Dahne, Official Commissioner to the Exposition from Brazil; and Mr. Edward G. Salmon,

Commissioner for the Imperial Institute of London. Promptly at the hour set, Acting-President Pearson arose and in a brief address which was very distinctly heard by all on the large floor—as well as by those looking down from the balconies—he stated the object of the Exposition, described the stupendous amount of work that had been done to accomplish it, and spoke of the beneficial results which were expected to accrue from it, in the increased acquaintance with one another of the different members of the great rubber industry, and in the wide interest that would be created in the industry among the people at large. He then introduced Commissioner Tomkins, who in the inability of Mayor Gaynor to be present—as had been his intention—spoke in behalf of the mayor and welcomed the commissioners and delegates to the city of New York. Commissioner Tomkins' address had been carefully prepared, and it contained a wonderful volume of rubber information—considering the speaker had never been intimately identified with the rubber trade. The Commissioner was listened to with deep interest; and he represented the great city of New York—which receives about half of the crude rubber of the world at its docks—most acceptably.

At the expiration of his address the Chairman pronounced the Exposition to be formally opened, and remarked that he would take Commissioner Tomkins on a tour of inspection, beginning with the crude rubber exhibits in the balcony, passing thence to the allied trades on the second floor, and coming down to the manufactured products and manufacturing machinery on the main floor. He suggested that this would be a profitable schedule for all those present to follow—either at that time or later—at their inclination. This concluded the opening exercises, and most of those present adopted the Chairman's suggestion and started for the wonderful exhibits of crude rubber in the Brazilian, Malaysian, Ceylon, and other departments on the balcony floor.

WHERE COMMERCIALISM YIELDED TO ART.

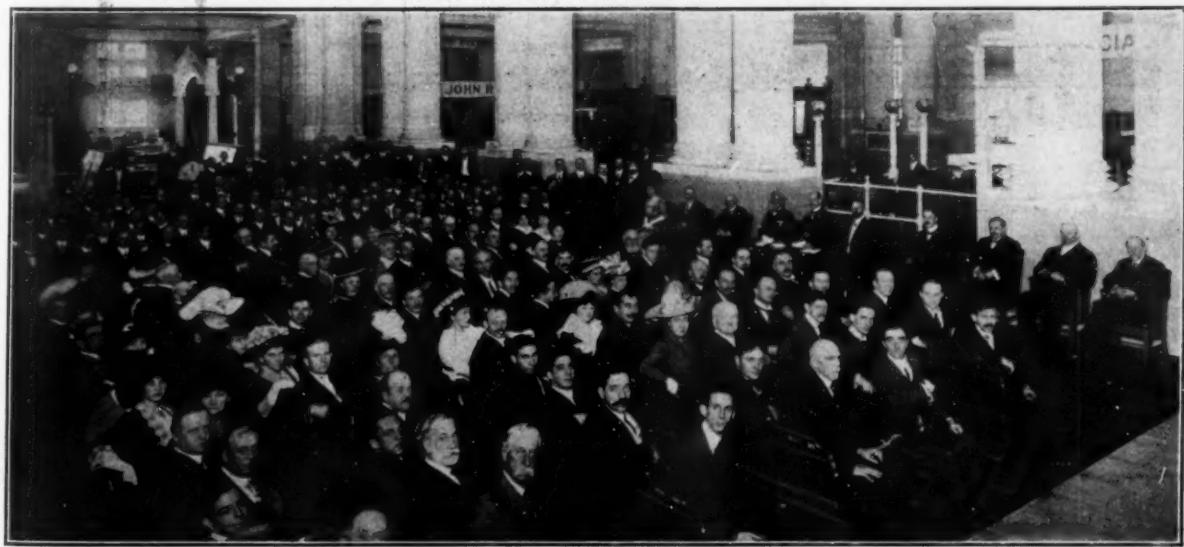
Taking it all in all the most noticeable exhibit on the main floor was that of the United States Rubber Co., which was

feet, divided into two reception rooms of about 30 feet square; the two rooms being divided by the central aisle of the hall. These two reception rooms were closed in by a solid mahogany partition, handsomely panelled, running all the way around and having an aggregate length of about 240 feet. At the top of this mahogany partition, there was a sloping glass showcase containing pictures of the 36 different factories whose product is sold by this company.



THE UNITED STATES RUBBER CO.

There were eight marble pillars included in these booths, which were draped with flags, with extremely fine effect, each having four—the two flags at the top representing rubber producing countries, and the two lower flags representing rubber manufacturing countries. As these flags were combined in a way that gave an exceedingly artistic color effect, it might be interesting to mention the various combinations.



THE OPENING EXERCISES.

conspicuous, both by reason of its position at the head of the grand stairway, and by reason of its character. It is quite safe to say, that there never was an exhibit in the Grand Central Palace more sumptuously conceived. The space was 1,800

The first pillar had at the top two Brazilian flags, and below them the flags of Canada and France. The second pillar had an arrangement of British Malay and Ceylon flags, with the flags of England and Holland beneath.

The other combination ran after this wise—the two flags mentioned first being always at the top.

British Malay and Ceylon—United States and Germany.

Two Peruvian flags—Australia and Russia.

Two Brazilian flags—Belgium and United States.

British Malay and Ceylon—Japan and England.

British Malay and Ceylon—Hungary and France.

Again, two Peruvian flags, and below, Germany and Italy.

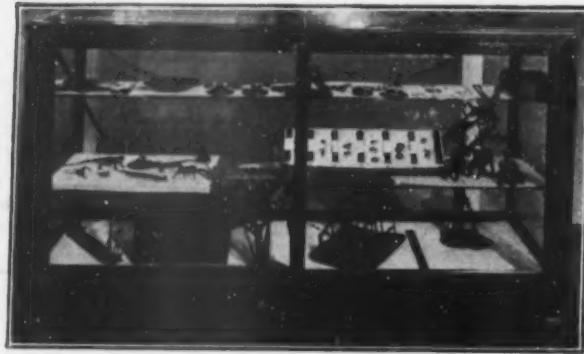
In addition to these flags, decorating the pillars, the entire two booths were covered with a silken canopy of silver-gray with side drapings of cadet-blue. Between the pillars were handsome signs of the United States Rubber Co., and of its two constituent companies—the "Rubber Goods Manufacturing Co." and the "General Rubber Co.," while inside the booths there was luxurious furniture of leather and mahogany, and palms in various corners.

The only suggestion of rubber was found in the interlocking tiling—made by one of the subsidiary companies—of which there were 1,300 square feet, surrounding the two booths and in the aisle between them.

Catalogues of the company's various footwear factories, and of its mechanical rubber goods factories, handsomely printed, were seen reposing unobtrusively on side tables; but the whole aspect of the place savored rather of art than of commercialism.

THE CHARLES GOODYEAR EXHIBIT.

Measured by its volume, there was no other feature in the entire Exhibition that attracted a fraction of the notice or ex-



SHOW CASE OF GOODYEAR RELICS.

cited a tithe of the interest that the exhibit of the Charles Goodyear relics in THE INDIA RUBBER WORLD booth received. It was the note of human interest that appealed to the visitors, for here were articles that belonged to the great Goodyear—the founder of the whole rubber industry—some of them presented to him in the days of his triumph, many of them made under his direction, and showing some unique applications to which he put his great discovery.

These Goodyear relics were on the upper shelf of the large showcase, as shown in the accompanying cut. They included the famous rubber book—Goodyear's Autobiography—printed in a volume of several hundred pages, every page of which is made of rubber thinner than parchment, the cover and everything about the book being rubber. This is the only volume of this sort in existence. Then there were many of the medals tendered Goodyear by various governments and scientific associations, including the large gold medal, of very considerable intrinsic value, aside from its association, given Goodyear by the Emperor of France at the time of his notable rubber exhibit at the Paris Exposition in 1854, and also the Cross of the Legion of Honor, bestowed on him on the same occasion. There were a number of wonderful pieces of jewelry made of hard rubber mounted in gold, showing the most delicate carv-

ing. There were bracelets and brooches and medallions and miniature statuary. The most noticeable piece of jewelry there was a replica of a remarkable chatelaine design which Good-



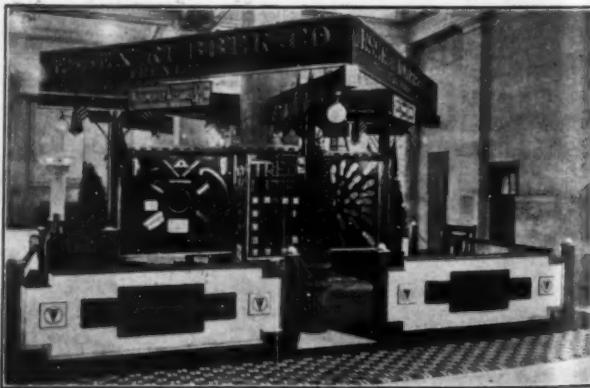
EXHIBIT OF THE INDIA RUBBER WORLD.

year presented to the Empress Eugenie, consisting of three short chains, the links of which were made of hard rubber of a dark brown color rimmed with gold, each chain terminating in an ornamental pendant, one being a seal, one a watch key, and the third having at its end a small watch in a hard rubber case edged with gold and elaborately set with jewels, including many small diamonds and several large rubies. This duplicate of Goodyear's gift to the Empress he made and presented to his wife, and it is one of the choice heirlooms of the Goodyear family. There were many other interesting items in this Goodyear collection, and it is not to be wondered at that every visitor to the Exhibition took a deep interest in these relics.

In the same case on lower shelves there was a variety of miniature creations—boats, trees, coagulating camps—made from balata by the natives of Venezuela. These too, being unique in their character, received much attention from the general visitor, while the extensive herbarium arranged around the booth naturally excited the interest of botanists and rubber experts.

THE ESSEX BUSINESS-LIKE DISPLAY.

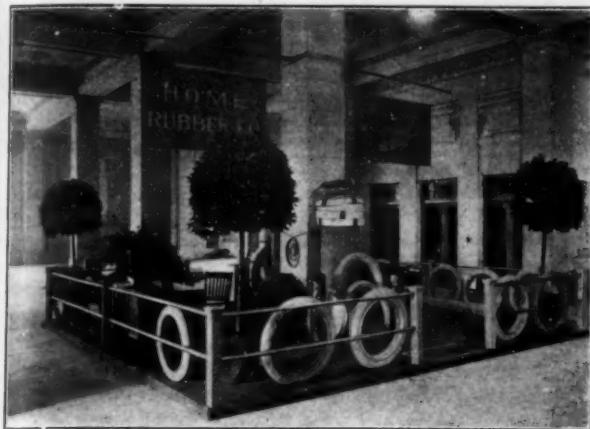
The exhibit of the Essex Rubber Co. was distinctly a com-



THE ESSEX RUBBER CO.'S DISPLAY.

mercial one. All the space was occupied by rubber products of various kinds—the floor being covered with matting made

at the Essex mill, and the aisles around the booth being laid with the Essex rubber rugs. In the booth a great variety of



THE HOME RUBBER CO.

these rugs was shown in several combinations of color—red and black, and blue and white. These rugs consist of small rubber blocks fastened together with slender rods passing through steel eyelets; consequently, their shape and size can be adjusted to any conditions. A large display of rubber heels and soles, automobile accessories, from goggles to bumpers, was also made by this company. There were some interesting sporting goods, including rubber covered bits for horses; recoil pads for guns, rubber bottles for veterinaries; while of mats large and small there were many kinds. The president of the company, C. H. Oakley, was present at the exhibition much of the time.

THE HOME RUBBER BOOTH.

This company's exhibit was also very business-like. There were four fine trees—not rubber, but near enough—in tubs in the four corners of the booth, but all the rest of the space was given up to rubber goods, including piles of hose of various sizes and for all manner of purposes. There was also a good display of tires, tubes, mats and matting.

THE MANHATTAN'S BUSY BOOTH.

Everybody likes to see a working exhibit—something in motion. Hence the crowd always standing around the Manhattan



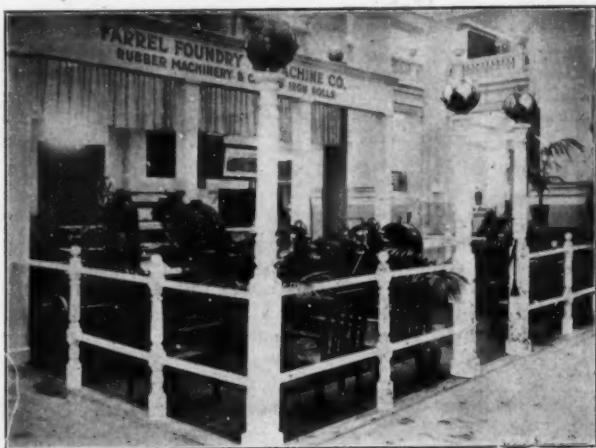
MANHATTAN RUBBER MANUFACTURING CO.

Rubber Co.'s exhibit, for here were three distinct varieties of rubber activity. One of the company's large "Condor" convey-

ing belts was at work carrying off a continuous stream of leather refuse—as would be shown in a shoe factory. Nearby there was another machine, knitting the "Economy" brand of underwriters' fire hose, made by the company, the same sort that the fire department of Chicago is using to the extent of some 85,000 feet. In another part of the booth a stalwart workman was grinding tools on an emery wheel, filling the air with scintillating sparks. There were various rolls of belting in this booth. One roll contained about 400 feet of 24-inch 10-ply belting, and stood about 5 feet high. In addition there was a variety of hydraulic packing on exhibition, and garden hose. One interesting article—something of a novelty—was the "Vacuum Mirror," which can be attached to any wall and adheres by the suction of a rubber vacuum cap; a very convenient device for a man to carry in traveling.

THE FARREL FOUNDRY EXPERIMENTAL OUTFIT.

The Farrel Foundry & Machine Co.'s exhibit consisted of an 8" x 16" motor-driven experimental outfit mounted on a continuous bed-plate, made up of a washer, mill and calender. The washer had corrugated rolls, six V cuts to the inch. This washer was equipped with a patented coil clutch, type G, which gives an instantaneous release and picks up the load without shock. The calender and mill had bored rolls and were fitted up



FARREL FOUNDRY AND MACHINE CO.

with steam connections so that the required temperature could be obtained; whereas the washer rolls were solid and the machine was piped for washing the rubber.

Both the mill and the washer run at a speed of 30 r. p. m., and the calender at about 15 r. p. m., and can deliver 10 1/4 yards per minute. Such an outfit as this is extensively used in laboratories for experimental work. It was a complete miniature of the company's larger machines.

THE TURNER, VAUGHN & TAYLOR MACHINES.

The Turner, Vaughn & Taylor Co., of Cuyahoga Falls, Ohio, also exhibited an experimental outfit, consisting of a 6" x 12" washer and mill, and an 8" x 14" 3-roll calender; the three machines being mounted on one bedplate and driven by an electric motor set inside the base, between the washer and the mill. The outfit was driven direct from the motor through a pair of double helical herringbone gears, the teeth being cut and staggered, and having a reduction ratio of 7.78 to 1. A patented multiple band clutch, equipped with an instantaneous release mechanism, controlled by a cord running over the washer mill and both sides of the calender, was attached to the gear on the main line.

The washer was fitted with chilled rolls, the back roll being cut 6 V threads per inch. The mill was equipped with chilled rolls,

both ground and polished, and connected up for steam. The frames were built with a quick movable adjusting screw and nut



TURNER-VAUGHN AND TAYLOR EXPERIMENTAL MILL.

(patents pending) to demonstrate an important feature on all large mills built by this company. The calender was equipped with 3 chilled iron rolls, ground and polished, with a two-speed control on the line shaft, and both friction and even connecting gears of cut steel, the latter being controlled by jaw clutches, which is a new feature. Further features on the calender were the disc friction let-off and wind-up, the latter being driven by small Diamond chain from the center roll.

The journal bearings throughout were all brass, and oiled by means of glass oilers. All line shaft bearings were ring oiling. All gearing was effectually protected by cast iron guards. The features which received much favorable comment—features found on "Vaughn" machinery only—were the method of changing connecting gears and the two speeds on the calender, the quick removable adjusting screw and nut on the mill, and the patented multiple band clutch on the line shaft.

The exhibit was in charge of Mr. Lee Vaughn, secretary of



BUFFALO FOUNDRY AND MACHINE CO.

the company, who was assisted by Messrs. M. A. Pearson and J. H. Ridgeway, the New York representative.

THE BUFFALO VACUUM DRYERS.

The exhibit of the Buffalo Foundry and Machine Co., though

it was as far from the front entrance of the building as it could get, being against the Western wall—was still exceedingly conspicuous, because it faced the Grand Central aisle, and every visitor who mounted the marble stairway, on reaching its top was bound to see the illuminated sign and the large illuminated picture of the Buffalo factory at the head of the aisle, although they were all of 200 feet away. This exhibit was characterized by a great deal of illumination—a series of illuminated pictures of its various machines and machine parts forming a continuous railing around the booth.

But while the casual visitor was interested in these illuminated effects, the rubber manufacturer was most attracted to the working exhibits inside the booth—one of which was a large vacuum dryer with a capacity of $2\frac{1}{2}$ tons of sheet rubber every twenty-four hours. These dryers are made of one piece, thus eliminating joints and the consequent leakage. They are also made



A DISTANT VIEW OF THE BUFFALO FOUNDRY EXHIBIT.

of very dense metal, preventing the seepage of air. The dryer is full of heating shelves, constructed either for steam or hot water circulation. One or two particular features may be mentioned regarding these dryers: First, that the steam manifolds are made of steel instead of cast iron, thus avoiding breakage; and secondly, that the shelves are connected to these steam manifolds by ground joints and in such a manner that no packing is used.

One interesting feature of the exhibit was a small laboratory vacuum shelf dryer where the centre of the stand formed the condenser—and the base a receiving chamber for condensed vapors. The vacuum in these dryers, by the way, comes within $1/10$ inch of a perfect vacuum. The large dryer on exhibition was built for the Independent Tire Co., of Toronto, while the vacuum pump on exhibition was built for the General Electric Co. Mr. E. G. Rippel, sales manager, was in charge of the exhibit.

THE DEVINE VACUUM-DRYING APPARATUS.

The J. P. Devine Co., of Buffalo, New York, the pioneers and originators of vacuum drying apparatus in this country, had a working exhibit of a complete vacuum drying apparatus

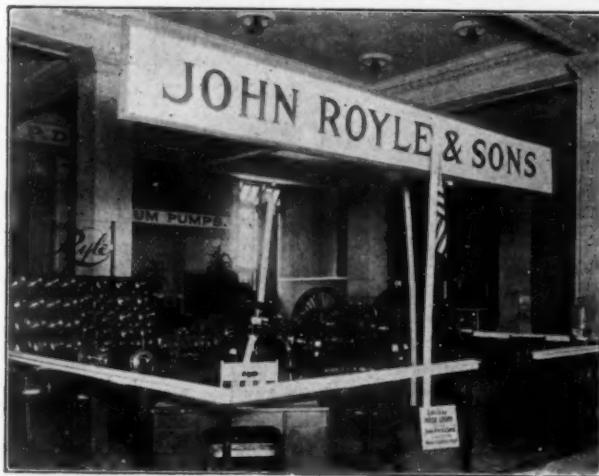
for the drying of rubber and rubber compounding material, which consisted of a vacuum drying chamber made of cast iron, very strongly reinforced with bridged ribs on the outside to resist external pressure and prevent the chamber from collapsing when under very high vacuum. Inside of the dryer there is a series of welded heating shelves connected with expansion bands to steam headers for inlet and outlet of the steam. The chamber is connected to a condenser, the inside of which consisted of a number of copper tubes encased in a cast iron water jacket for condensing the vapors carried over from the vacuum drying chamber; the bottom of the condenser is a receiver, with two observation glasses, in front of which on the inside, is a copper drain pipe, permitting an ocular demonstration of the condensed vapor coming from condenser tubes to the receiver.

The condenser is connected to a dry vacuum pump, which obtains and maintains the vacuum on both condenser and dryer. The pump—an innovation in dry vacuum pump construction, as it has one rotary valve for both suction and discharge, attracted a great deal of interest at the exhibition, on account of its simplicity and effectiveness. A mercury column was attached to

washing, masticating and rubber solution machine. If any factory man went to the show and missed this exhibit, he was un-



J. P. DEVINE VACUUM DRYERS.



THE JOHN ROYLE TUBING MACHINES.

show the efficiency of the pump. This exhibit was in charge of Messrs. Chas. Devine and Howard Mason.

THE ROYLE TUBING MACHINES.

John Royle & Sons, of Paterson, New Jersey, exhibited five different tubing machines, making tubing of various sizes; the smallest machine making a tubing only 3/32 of an inch in diameter, used chiefly to hold artificial flowers on the feminine bonnet. The second-size tubing (machine made tubing) of a little larger size, but still of a small diameter, such as is used on children's toys—the jumping frogs, for instance, which one sees offered by venders on city sidewalks—to the great delight of the children, and to the equal distress of their elders who would like to get along about the more serious affairs of life. There were larger machines that made the rubber lining for garden hose. Where the hose is made particularly strong, as in some instances with three layers of rubber and two layers of fabric hose, it has to go through the machine three times—each layer representing a distinct operation. These machines make the famous garden hose that comes in 500 foot lengths. The largest machine displayed there turned out tubing of 2 1/2 and 3 inches in diameter, for fire hose; and also for the making of jar rings.

INTERESTING WASHING AND COMPOUNDING MACHINES.

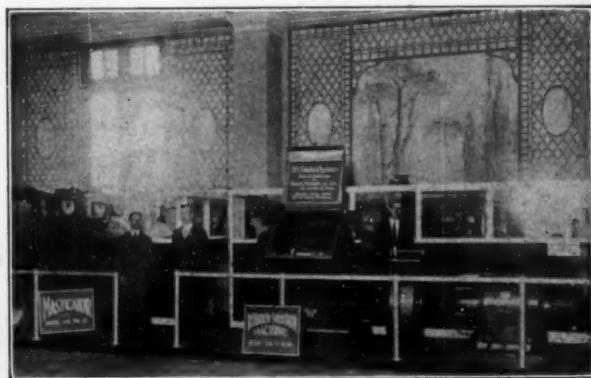
Werner & Pfleiderer, of Saginaw, Michigan, and four or five places on the continent, had a fine working exhibit of their

fortunate; because all of these machines were exceedingly interesting. The washing machine does its work rapidly and with wonderful thoroughness. The same can be said of the other two machines. Incidentally, the Michelin Rubber Co. has just ordered 30 more of these rubber solution machines for its works in France—in addition to the 60 that it is using now, which seems to indicate that this machine has at least the unqualified Michelin approval.

In fact their masticator and solution mixer have long been used by rubber mills throughout the world. The booth was in charge of C. Pletcher, W. J. Ennis and M. L. Johnson. During the Exposition the booth was visited by Mr. Emil Stachle, of Saginaw, manager of the company in this country.

THE CURTIS & MARBLE BRUSHING MACHINE.

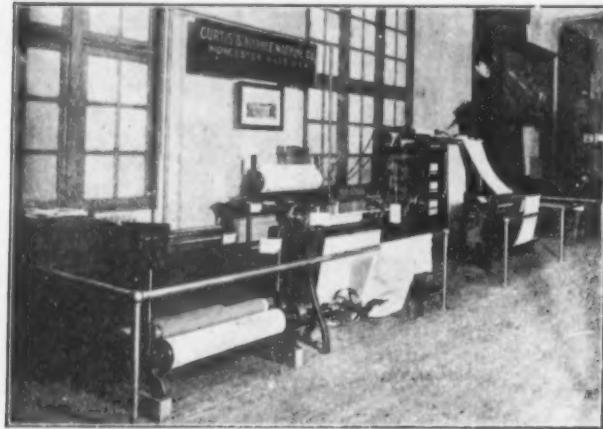
The Curtis & Marble Machine Co., of Worcester, Massachusetts, made a convincing demonstration of their various machines, emphasizing particularly their brushing machine, which takes in a piece of fabric of any sort—from the thin fabrics used in dress shields to the heaviest tire fabrics and turns them



WERNER & PFLEIDERER CO.

out with smooth surfaces—all the lint and other undesirable matter being entirely removed, so that the fabric can receive a rubber coat to the best advantage. This brushing machine also takes fabric that has been coated with rubber and covers the

rubber coating with talcum, soap stone or starch to remove the stickiness and the rubber smell that it otherwise would have. In addition, they exhibited their sewing machine, which sews together widths of fabric so as to make a continuous surface.



CURTIS MARBLE MACHINE CO.

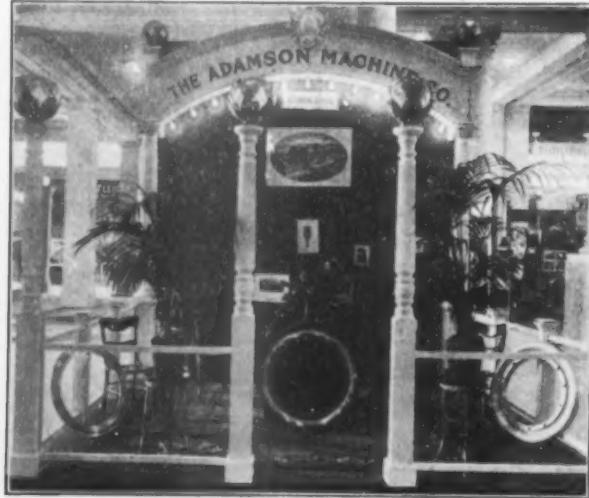
These machines, together with a measuring drum were in operation so as to give a complete demonstration of their work. Mr. E. H. Marble was present most of the time in this booth answering the questions of those who were interested in this machine.

THE ADAMSON MACHINE CO.

The Adamson Machine Co., of Akron, Ohio, did not make a display of its machinery, but exhibited a large photograph of the factory and smaller photographs of the machinery produced in the factory; in addition to distributing literature descriptive of the various machines.

THE GOVERNMENT TESTING APPLIANCES.

The exhibit of testing machines made by the Bureau of Standards of the United States Government attracted a great deal of



THE ADAMSON MACHINE CO.

attention naturally from rubber manufacturers, who were able by examining these machines to get some idea of the methods employed by the Government in testing the goods offered its various departments by American manufacturers.

E. H. CLAPP RUBBER CO.

The E. H. Clapp Rubber Co., and its subsidiary, the New Jersey Rubber Co., had an interesting exhibit of their combined product and merchandise. This stand was in charge of Messrs.



THE E. H. CLAPP RUBBER CO. AND NEW JERSEY RUBBER CO.

J. S. Clapp and Harold P. Fuller. During the show, Mr. E. H. Clapp and Mr. G. H. Clapp were among the visitors. In addition to a display of sheets and blocks of their reclaimed rubber there was quite an exhibit of tennis shoes—and other rubber footwear—tiling, cloth and tubing, manufactured from their material, including some belting that was impregnated with a rubber solution of their reclaimed rubber. Perhaps the most interesting product was a set of tires which had stood hard service without any appreciable effect, and which were composed of 20 per cent. of their reclaimed rubber.

THE LOEWENTHAL CO.

An exhibit of general interest to visiting manufacturers, was the showing of old rubber made by the Loewenthal Co., whose



THE LOEWENTHAL CO.

booth was the center of much interest, and was in charge of Messrs. Ralph and Paul Loewenthal and H. G. Armstrong. These gentlemen were among the busiest at the show, and did much during its progress to promote interest in their offerings.

THE HOGGSO & PETTIS RUBBER TOOLS.

Those well known specialists in rubber manufacturing tools and devices, Hoggson & Pettis, exhibited a comprehensive and attractive line of their products, which display attracted



HOGGSO & PETTIS MFG. CO.



THE ELECTRIC RUBBER RECLAIMING CO.



MONATIQUOT RUBBER WORKS CO.

much attention. The members of this company have been recognized experts for a great many years, in the production of mechanical devices adapted for rubber manufacture, and their output is to be found in practically all of the rubber mills of this country and Canada. The company was established in 1849.

THE ELECTRIC RUBBER RECLAIMING CO.

The exhibit of the Electric Rubber Reclaiming Co., in charge of Messrs. Emil Gammeter, president of the company, W. A. Rydner and Shreve Clark, was among the attractive exhibits at the show, and these gentlemen were busily engaged in answering questions in reference to the company's product. The headquarters of the company are at Akron, Ohio, while the factory is at Barberton, in the same State. They claim a superior product, owing to their short time method, low temperature, and electrical process. While this is a new concern, it has already succeeded in stimulating considerable trade interest.

THE GAMMETER BRODBECK SALES CO.

The Gammeter Brodbeck Sales Co., whose headquarters are

MONATIQUOT RUBBER WORKS CO., SOUTH BRAINTREE, MASS.

The old proverb that the only good Indian is a dead one, does not hold good of the products of this company, whose "Four Good Indians" are very much alive. As the handsome

booklet issued by it under this title tells us in attractive form, "Naturized" rubber is made under four brands, in a range of qualities, known as "Monatiquot," "Squanturn," "Massasoit" and "Samoset."

"Naturized" rubber was introduced some three years ago by the Monatiquot Rubber Co., and has proved a most available substitute for certain medium grade rubbers, and is said to be equally available for combination with the higher grades. It is adapted for a variety of purposes, especially for auto tires and mechanical rubber goods. The company's exhibit, in charge of Mr. Merton A. Turner, was most effective.

THE RUBBER CHEMIST IN EVIDENCE.

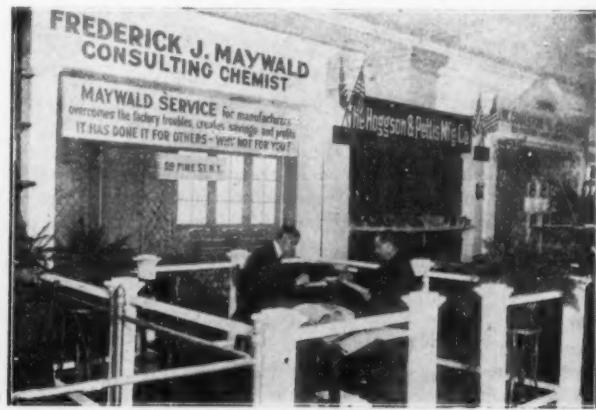
The chemist who specializes in rubber analysis has become an important factor in the trade, and Frederick J. Maywald, F. C. S., is a very well-known chemist specializing in rubber work. The Maywald booth attracted many rubber men, and Maywald methods were effectively shown.

The particular scope of these laboratories may be classified as the improvement and invention of processes, testing of new



THE GAMMETER BRODBECK SALES CO.

in Akron, are important distributors of rubber manufacturers' supplies and their exhibit attracted many users of this class of goods. Their booth was in charge of Messrs. Emil Gammeter and F. E. Ranney.



DR. MAYWALD'S BOOTH.

methods, experimental work, investigations, working out formulæ, reduction of manufacturing cost, analyses and examination. The booth was in charge of Dr. Maywald and Mr. Clare Kennedy.

GEORGE A. ALDEN & CO.

"Emarex," the celebrated mineral rubber exploited by George A. Alden & Co., was the subject of attention and interest on the part of visiting manufacturers from the beginning of the



A FINE DISPLAY OF M. R. X.

show to its close. The exhibit consisted of a large number of drums attractively painted in red, containing the company's product, and in the center of the booth was a very heavy weight supported by a strip of rubber in which was incorporated a large percentage of "Emarex." Another particularly interesting feature of this exhibit was a treadmill, the flooring of which was of the Alden Mineral Rubber, operated alternately by two horses,



RUBBER REGENERATING CO.

during the progress of the exposition and showing on the closing day that "Emarex" is impervious even to the continuous hoof beats to which it was subjected for ten days. George A. Watkinson, who operates the mineral rubber department of George A. Alden & Co., was in charge of this exhibit, as he was of that in London last year, and his genial personality did much to promote the attractiveness of this exhibit and the popularity of this product.

WHERE ALL WAS RUBBER.

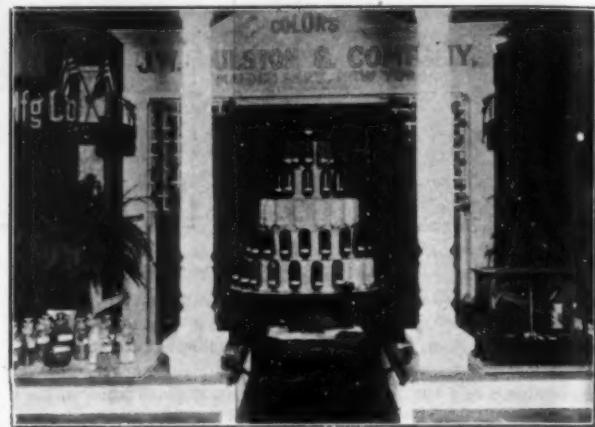
One of the most unique exhibits in the whole Exposition—combining art with business, was the booth of the Rubber Regenerating Co. This occupied a space of about 30 x 40 feet, and was walled in all the way around—a distance probably of 140 feet—with a solid wall about three feet high and a foot thick, built up of the regenerated rubber made by this company. On top of this wall, forming a continuous parapet, was a row of flourishing rubber trees—probably a hundred of them all told. This exhibit was in charge of Mr. W. A. Inwood, who received a great many congratulations on his conspicuously effective display.

A CHEMICAL EXHIBIT FROM HAMBURG.

Lehmann & Voss, of Hamburg, had an attractive showing of chemicals of interest to the rubber trade; in addition to which they distributed two publications of genuine value to the trade, namely:—"Handbook for India Rubber Engineers," and "Tables for India Rubber Engineers," publications which are very highly appreciated by all those fortunate enough to have acquired copies. The booth was in charge of Mr. R. Bardewyck, the company's manager in the United States.

J. W. COULSTON & CO.

This firm makes a specialty of imported red oxides of iron and of antimony in various forms, while in colors of American manufacture it carries greens and yellows for rubber compounding.



J. W. COULSTON & CO.

It likewise makes a particular feature of sulphide of zinc. Mr. Thomas Coulston, who had been in charge of the exhibit, expressed himself as much pleased with results obtained.

THE U. S. RUBBER RECLAIMING CO.

There was probably no more magnetic exhibit than that of the United States Rubber Reclaiming Co., which among other interesting features, operated a Birmingham mill, which demonstrated the process of grinding rubber in a reclaiming plant.



THE U. S. RUBBER RECLAIMING WORKS.

This booth was recognized as a center of hospitality and many good things, including "The Celebrated Loewenthal Cigar" and "Reclaimed Rubber Purse" were dispensed. Among the members of the company and its representatives present at different

times, were Messrs. Rudolph A. Loewenthal, Clarence Loewenthal, Theodore W. Bassett, L. J. Plum, D. McCallum and V. P. Schmidt.

TYSON BROTHERS.

Tyson Brothers, Inc., of Carteret, N. J., had one of the most attractive exhibits at the show.

In addition to a full line of substitutes they make a specialty of chlorinated oils, and have likewise a complete range of antimony, whittings and fillers. In regard to substitutes, their facilities place them in a position to duplicate any quality at present on the market. Among their specialties is the "special brown adhesive," of which they are the originators and sole manufacturers. Their facilities of distribution are on a par with



TYSON BROS., INC.

the excellence of their manufacturers. The capacity of their factory enables them to fill all orders promptly, while the special needs of Akron manufacturers are met from a full stock carried at that point.

The concern is managed and controlled by Messrs. R. E. and T. H. Tyson, who have brought it to its present importance.

PFALTZ & BAUER.

This firm showed a full line of the chemicals for india-rubber manufacture, made by E. de Haen, "List" Chemical Factory,



E. DE HAEN CHEMICAL WORKS.

Seelze, near Hanover, Germany. It included a range of colors in sulphuret of antimony, without free sulphur, which enables the manufacturer to cure rubber according to his own requirements.

They also showed chrome yellows, arsenic sulphide and zinc chromates, with Japan red and iron oxides in various shades. Black hypo (with and without free sulphur), lithopone and other rubber chemicals were also shown.

An interesting feature of their display was the range of cured



AMERICAN ASPHALTUM AND RUBBER CO.

rubber samples made with their products free from sulphur. These samples were specially imported for the Rubber Exposition. The display was in charge of Mr. F. Bauer, and the firm's Philadelphia representative, Mr. J. Fred Lieberman.

AMERICAN ASPHALTUM CO.

American Asphaltum & Rubber Co., of Chicago, exhibited a number of attractively arranged drums of their well known "Pioneer" M. R., the booth being in charge of Mr. W. D. F. McIntosh. The exhibit attracted many visiting manufacturers, who manifested great interest in this product.

HERMAN MUEHLSTEIN & CO.

Herman Muehlstein, a well known dealer in waste rubber, entertained a number of visiting buyers at his booth, to which he gave personal attention during the entire period of the Exposition.

DERESINATED RUBBER.

The Acushnet Process Co., of New Bedford, Massachusetts, had an attractive showing of high grade deresinated rubbers, in



ACUSHNET PROCESS CO.

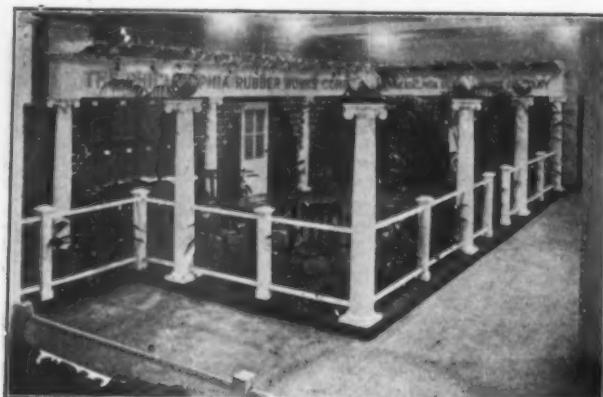


H. MUEHLSTEIN & CO.

which visitors were much interested. The booth of this company was in charge of Messrs. F. R. Peabody, A. T. Weeks and Philip Endicott Young. Their selling agents are Geo. A. Alden & Co.

THE PHILADELPHIA RUBBER WORKS CO.

The exhibit of the Philadelphia Rubber Works Co., Akron, Ohio, was distinctly artistic. In the first place, it occupied generous space, so that there was no crowding. In the second

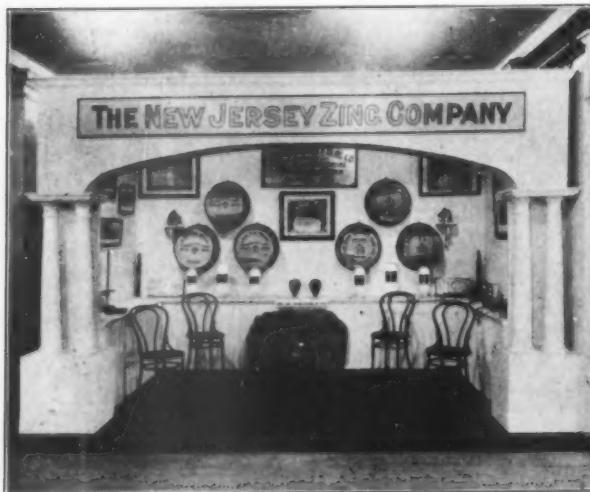


THE PHILADELPHIA RUBBER WORKS CO.

place, it was a wonderfully fine color combination of pure white and dark green, the space being enclosed by a white rail with fluted pillars at short intervals, these pillars being topped by illuminated globes, while within the railing there was a row of rubber plants and ferns fringing the entire enclosure. Some simple furniture—not too much to clutter up the place—completed the general effect, while against the wall in the background—observable but not obtrusive—were samples of reclaimed rubber made by the company. The accompanying cut gives an idea in miniature of the general effect of this display.

DISPLAY OF NEW JERSEY ZINCS.

The exhibit of the New Jersey Zinc Co. was distinctly business-like. It consisted of tubs of oxide of zinc, taken from the company's mines at Franklin Furnace and Sterling Hill, New Jersey. There were also fine specimens of Franklinite and Willemite, concentrated forms of zinc ore. There were likewise



AN EXHIBIT OF ZINC ORES.

bottles of Lithopone, used in rubber compounding. The man from the street looking for general excitement probably did not linger very long before this booth, but the superintendent in the rubber factory found it exceedingly interesting.

COMMISSIONERS TO THE EXPOSITION.

THE following were the commissioners or delegates to the Exposition from various countries:

FEDERAL GOVERNMENT OF BRAZIL.

Dr. Cândido Mendes de Almeida, president of the commission. Admiral José Carlos de Carvalho, vice-president. Dr. Eugenio Dahne, general secretary. Mr. Dillwynn M. Hazlett, assistant secretary. Mario Baptista Nunes, Dr. Oscar Sayao de Moraes, Adalberto de Sousa Aranha, Ivo Graca Campos, Dr. Carlos Cerqueira Pinto.

STATES OF BRAZIL.

Amazonas—Dr. Manuel Lobato, Mr. A. W. Stedman (New York), and Mr. J. Levy (Manáos), (Associacão Commercial do Amazonas).

Pará—Mr. George E. Pell (New York), (Associacão Commercial do Pará). Dr. Jacques Huber.

Federal Territory of Acre—Dr. Manuel Lobato, Mr. A. W. Stedman (New York).

Matto Grosso—Dr. Manuel Lobato, Mr. A. W. Stedman (New York).

Bahia—Dr. Jayme do Argollo.

Minas Geraes—Dr. J. Santiago Cardwell-Quinn.

OTHER COUNTRIES.

England—Mr. Edward G. Salmon (Imperial Institute), Mr. Noel Trotter (Rubber Growers' Association).

Federated Malay States and Straits Settlements—Mr. Leonard Wray, Mr. Cyril E. S. Baxendale.

Ceylon—Mr. F. Crosbie-Roles.

Hawaiian Islands—Hon. Wm. Williamson, Mr. Wilbur A. Anderson.

Province of Moro, Philippine Islands—Dr. James Walter Strong.

Republic of Honduras—Señor R. Camillo Diaz.

CRUDE RUBBER EXHIBITS.

WHILE Brazil at one time supplied the largest part of the world's consumption of rubber, that country has for some years had to experience the growing competition of southern Asia; notably of Malaya and Ceylon. At one time such an exposition as the recent one would have been needless. Every consumer knew what Brazilian rubber was, and the only question was, to what extent was the price to be affected by supply and demand. The possibility did not exist of an alternative variety.

Now, however, that Malayan and Ceylon rubber are daily assuming greater importance, it has become necessary for Brazil to assert her position by inviting comparison on a large and comprehensive scale.

This comparison could not be thoroughly effected in warehouses or brokers' offices, but called for a spacious building, such as those in which the first three international rubber exhibitions have been held—"Olympia," and the Agricultural Hall, London, and the Grand Central Palace, New York.

On each new occasion the arrangement of the sections has been improved, and that of the exposition just closed may be regarded as having achieved the best possible result in this respect. The close proximity of the three principal exhibits, from Brazil, British Malaya and Ceylon, was a great convenience to buyers and others interested in comparing the different varieties of rubber. It had another advantage—that of facilitating the comparison of notes between the planters of various countries, or their representatives.

Among the principal features of modern rubber cultivation is the recognition of the principle that the adoption of the processes of one country for the treatment of the *latices* produced in other countries, may lead to improved results. On this and other topics calling for the daily interchange of opinions between interested parties, the recent exposition probably did more than can now be realized, to unite and facilitate the exchange of views incidental to a successful gathering of such a nature.

BRAZIL.

The general character of the Brazilian exhibit was described in detail in the Special Exposition Number, so that many features of interest have been covered by the preliminary description. Suffice it to say that the harmonious and artistic setting was fully appreciated by the visitors.

From a comparison of the destinations (as shown by the statistical chart) to which the Brazilian rubber exports of 1911 were sent, the 36,547 tons were shipped as follows: United States, 16,146; Great Britain, 15,662; Germany, 1,058; France, 3,221; other countries, 460.

It was thus seen that about 90 per cent. of the total yield of Brazilian rubber went in about equal quantities to this country and to England.

As furnishing in about equal quantities 90 per cent. of the total Brazilian rubber shipments, the States of Pará and of Amazonas (including Acre and Matto Grosso) appropriately occupied the two principal divisions in the Brazilian section.

The Commercial Associations of Pará and Manáos had organized the exhibits from the States of Pará and Amazonas; the latter body having also undertaken the charge of the exhibits from Matto Grosso and the Federal Territory of Acre. The total weight of the samples exhibited in the Brazilian section amounted to about 70 tons, thus divided: State of Pará, 20; State of Amazonas, 30; Territory of Acre, 10; Matto Grosso and smaller States, 10.

PARA.

In the collection of samples from the State of Pará the following descriptions were included:

Low Xingu fine; High Xingu fine; High Xingu Cauchó Bali; Islands coarse; Islands fine; Cameta coarse; Cavianna fine; Weak fine; Weak coarse; Cajary fine; Anapu; Tocantins; Tiras coarse; Tapajos fine strip and Itaikuba fine.

Mr. George E. Pell, of the General Rubber Co., was Commissioner for the Pará Commercial Association. Dr. Jacques Huber also represented Pará.

AMAZONAS.

The samples from Amazonas included: Up river fine from up the rivers Madeira, Jurua and Purus belonging to Amazonas,



30 TONS OF AMAZON RUBBER.

Matto Grosso and Acre. They also comprised *Hevea* Scrap (Ser-namby) as well as Cauchó ball. Smoked and smokeless sheets of *Hevea* rubber treated by the process of Mr. Monteiro da Costa were also shown. Dr. Carlos de Cerqueira Pinto also had specimens of Pará rubber treated by his patent process, which was further illustrated by the exhibits of various American manufacturers. Dr. Manuel Lobato was Commissioner and was in constant attendance.

The pyramid composed of 30 tons of Amazon rubber, illustrated in the last number of THE INDIA RUBBER WORLD, proved one of



THE GENIUS OF THE AMAZON.

the marked attractions. The Commercial Association of Amazonas was represented by Mr. A. W. Stedman and Mr. J. Levy.

MATTO GROSSO.

Matto Grosso sent the following up-river samples, which were in charge of the State of Amazonas:

Matto Grosso Samples.

Source.	Shown by
Valley of River Machado,	Avensi & Co.
River Mutumparaná,	Julio Müller & Co.
Valley of River Javary,	Aruda Bros.
Valley of River Guaporé,	Guaporé Rubber Co.
Valley of River Jacy—Paraná,	Fidel Bacca & Co.

The Commissioners for Matto Grosso were Dr. Lobato and Mr. A. W. Stedman.

BAHIA.

The Bahia samples, which only arrived on September 28, included Maniçoba, from Moraes & Co., J. C. da Costa Santos and S. Hess & Co.; Maniçoba Superior from M. Ullmann & Co.; Maniçoba Especial, from the Commercial Museum of the State of Bahia, and Maniçoba, from F. Stevenson & Co., Jequié.

Dr. Jayme do Argollo, the Commissioner of the State, gave full and courteous explanations regarding the samples.

MINAS GERAES.

The samples exhibited included types of Maniçoba from Clemence & Co., Resacca Estate and the Chamber of Commerce, of Minas; also of wild Maniçoba cleaned by Werner & Pfleiderer's machine.

Two comparative samples were of special interest: Wild Maniçoba sheeted on washer, and plantation Maniçoba, also sheeted on washer.

One very transparent quality of sheet Maniçoba was exhibited by the British and Brazilian Rubber Plantation Co., Ltd., Lagoa Estate. Another sample came from Restinga Estate.

An interesting feature of the exhibit was the specimen of transparent sheet Maniçoba, through which could be read a card with the words "Rubber Window Panes from Minas, by Cardwell-Quinn's Coagulating Process." Dr. J. Santiago Cardwell-Quinn, the Commissioner from Minas Geraes, stated that 87 per cent. of the Maniçoba rubber produced there could be delivered in equally transparent condition.

OTHER STATES.

Samples from other States included small exhibits from Piauhy, Pernambuco, and Alagoas.

RECEPTION TO THE BRAZILIAN AMBASSADOR.

The greatest number of people gathered at any time during the Exposition attended on the afternoon of September 28, on the occasion of a reception tendered to the Brazilian Ambassa-



RECEPTION TO THE BRAZILIAN AMBASSADOR.

dor to Washington, Dr. Domicio da Gama. The reception committee consisted of Count Candido Mendes de Almeida, Admiral Jose Carlos de Carvalho and Dr. Eugenio Dahne. The reception proper was held on the spacious landing at the head of the grand marble staircase at the east end of the main floor as shown in the accompanying illustration. Immediately after the formal reception the entire company repaired to the balcony floor to visit the wonderful Brazilian exhibit, which, notwithstanding the large space devoted to it, was crowded in every nook and corner. After every one had had an opportunity to look at the samples of crude rubber displayed by the different organizations of Brazil, refreshments were served to the accompaniment of most excellent music. Brazil Day was a conspicuously successful feature of the Exhibition.

THE POPULAR MOVING PICTURE SHOWS.

One was always sure of finding a good crowd in the moving picture room, which was located on the main floor, in the southeast corner, and had seating accommodations for about 250 people, besides standing room, which was quite frequently utilized. These shows were given at two and four o'clock in the afternoon, and at 8 o'clock in the evening; and as new series of pictures were being constantly put on, one could attend a number of these picture displays without seeing any repetition. The pictures for the most part showed scenes along the Amazon, in the rubber exporting cities and in the rubber producing jungles. This feature was a valuable addition to the general exhibition.

One exceedingly interesting series of films showed the Madeira-Mamoré Railroad, which has recently been opened, after years of labor and millions of expense. One immediately sees as he travels over this road in these of moving pictures, why it should have taken so long to build and cost so much. The road is only 180 miles long, but it is a succession of bridges made of steel and cement, over streams and ravines, followed by deep cuts through solid stone—the whole road going through the densest imaginable jungle. As the road was built entirely by American engineers it reflects extreme credit upon our national engineering skill. This road starts at Porto Velho. Though this port is 1,800 miles up the river from the mouth of the Amazon, the largest steamers in the world can dock comfortably at its wharves.

ALGOT LANGE'S INTERESTING LECTURES.

Occasionally in place of the moving picture films Algot Lange, the well-known Amazon explorer, delivered a lecture, accompanied by stereopticon slides, on his twelve months' experience during 1910-1911 in the Amazon forests. It will be remembered that last spring his publishers issued his book, entitled "In the Amazon Jungle," an exceedingly interesting narrative, full of adventure and moving incidents. Mr. Lange's lectures traversed practically the same ground that was covered in his book, but to hear a story from an explorer's own lips is always more interesting than to read it in cold type, consequently his lectures always crowded the auditorium. He described the extraordinary features of the Amazon, which, he says, counting all its tributaries, has 100,000 miles of navigable waters. The river, hundreds of miles from its mouth, widens out in several places into a great inland lake, sometimes 24 or 25 miles in width.

He showed several pictures of a forlorn little hamlet, perched up on the banks of the river, called Remate de Males—being in English "The Culmination of Evils." This is at the point where the Javary River flows into the Amazon, a thousand miles from the Atlantic Ocean. The lecturer had spent several months in this forsaken spot, and he gave a graphic account of the place and its peculiar life. This is the resort of rubber gatherers during the rainy season, when their work is interrupted.

He also recounted his experiences up the Itecoahy River, where, among other interesting encounters, he fell in with a boa-constrictor, 54 feet and 8 inches long, which with the help of six trusted assistants was dispatched and duly skinned. Some American pessimists have doubted that 54 feet 8 inches—at least the 8 inches. But it seems that quite recently an English explorer alleged that he had an encounter with a boa-constrictor 65 feet long, which would appear to be ample endorsement of the accuracy of Mr. Lange's measurements. The lecturer's pictures of the animal life in the jungle proved of absorbing interest to his audiences.

Mr. Lange expects, in a few weeks, to start on another exploring expedition in the Amazon country, to cover the next three years, taken under the auspices of the University of Pennsylvania. He states that notwithstanding the fact that during his twelve months' residence in that country he had 17 distinct attacks of fever, with practically no respite between, he feels the most profound affection for the Amazon and cannot get away from the fascinating spell that it seems to cast over the natural explorer.

BRITISH MALAYA.

The bringing under British protection of the various



THE BRITISH MALAYAN DISPLAY.

native States in the Malayan Peninsula was the first step to the consolidation of their business interests. This combination has

rendered possible an exhibit in which all parts of the Peninsula would share, as was done in this case.

The growth of the Malayan rubber industry is a stimulus to renewed effort. From the interesting booklet distributed in this section, "The Story of the Rubber Industry in Malaya," its progress is clearly shown:

MALAYAN RUBBER EXPORTS.

	Pounds.
1906	1,035,601
1907	1,998,889
1908	3,186,099
1909	6,112,023
1910	12,245,864
1911	23,914,263
(Estimated) 1912	34,000,000

Such a development is probably without a parallel in the history of the world's commerce. Whether the increased yield will



FEDERATED MALAY STATES.

continue at the same rate depends on the number of trees reaching maturity. The acreage planted from 1906 to 1909 averaged about 50,000. That for 1910 was about 70,000, and that for 1911, 180,000. The direct result of the "boom" of 1910 was the heavy planting in 1911 and the prospectively heavy yield for 1912.

The samples shown were from about 80 estates and were distributed as follows among the various classes of rubber:

	Samples.	Pounds.
Crepe	58	6,949
Smoked sheet	33	5,406
Scrap	22	3,264
Sheet	6	628
Block, etc.	16	1,388
	135	17,635

One of the features of the Malayan exhibit was that companies which had in London exhibited independently now in almost all cases joined in the general British Malayan display.

Among the miscellaneous exhibits were specimens of good tapping and recovery of bark, as well as a model of the Kuala Lumpur Experimental Station. The tapping of gutta percha was shown by photographs. The samples were in most cases about 100 pounds each, but in the instance of the Sungei Kapar Rubber Co. were much larger; the exhibit including 1,548 pounds of smoked sheet rubber and 1,104 pounds of block rubber. The exhibit was in charge of Mr. Leonard Wray, I. S. O., assisted by Mr. W. J. Graham, who had come out from England for that purpose.

While the subject of Malayan rubber is probably today the

most interesting to the industry, its products are to a large extent uniform in character.

Mr. Wray referred to the hearty co-operation he had met with from Mr. Cyril E. S. Baxendale, representing the Malayan Planters' Association, and Mr. Noel Trotter, acting for the Rubber Growers' Association of London. Malayan interests have undoubtedly gained by the exposition.

In the arrangement of the British Malayan exhibit the idea of unity of feeling among the various states and possessions on the Malay peninsula, has been very happily carried out. Mr. Wray had been appointed by the secretary for the colonies, as commissioner to the exposition from the Federated Malay States and the Straits Settlements. Although his official commissionership only extended to the above two governments, Johore and the other native states outside the Federation were likewise acting under Mr. Wray's advice. The geographical—if not strictly political—unity of all parts of the Malay peninsula was illustrated by the fact that the enclosure surrounding the space occupied by the British Malayan section bore the names of the various states on the peninsula.

HIGHLANDS & LOWLANDS PARA RUBBER CO.

The Highlands & Lowlands Pará Rubber Co. (Thomas Barlow & Brother, Ceylon House, London) exhibited the following samples:

- Finest smoked sheet plantation Pará rubber.
- Unsmoked sheet plantation Pará rubber.
- Smoked crepe plantation Pará rubber.
- Unsmoked crepe plantation Pará rubber.

This company received the first award and gold medal for smoked sheet; being likewise commended for unsmoked sheet. Its property, comprising 8,137 acres, is situated near Port Swettenham, Federated Malay States. The planted area is 3,760 acres, three-quarters of which had been planted before 1907, while the output of dry rubber has been as follows: 1907—193,505 pounds; 1908—222,287 pounds; 1909—346,259 pounds; 1910—511,724 pounds; 1911—637,449 pounds. Its dividend for 1910 was 50 per cent., while an interim dividend of 22½ per cent. was paid for 1911.

WATCHING THE RUBBER WORKERS.

One of the most interesting features of the whole Exposition—but one that possibly was missed by quite a number of visitors, because it was at the remote end of the mezzanine floor—was a display of moving pictures given every hour or so during the afternoon and evening, showing the work that goes on in the plantations of the Middle East. In a half hour's time the spectator could get a better idea of plantation operations than hours of reading could possibly give him.

The first films showed the virgin forests, and then the work of clearing. When the land was cleared off and burnt clean the planting began. Two coolies moved along over a bed of soft earth prepared for them—each at the end of a long board about one foot wide, with notches at even intervals along the edges. They put the board down on the ground, and at each notch pushed a seed into the earth. The board was then moved along its width and the process repeated. In this way, seeds were planted at perfectly regular intervals, and the whole work was done simply and rapidly without the necessity of any mathematical calculations.

Then the process of weeding and keeping the plantations clear of ants and other insects was shown. The scene was then transferred to a plantation of young trees about five years old and the tapping was shown. The natives were seen moving swiftly from tree to tree, making their incisions very deftly and attaching the little tin cups. Next came the gathering of the cups full of latex which was poured into pails and the pails in turn emptied into a large tank on wheels, drawn through the plantation to re-

ceive the rubber milk. The scene was then transferred to indoors where workmen were busy coagulating the latex and skimming the rubber off the top. The next step showed husky laborers kneading the rubber as a baker kneads dough. It was then put through rollers, coming out in long crepe sheets. After that came the shipping room, where the rubber was boxed up and made ready for the market. Then followed a dock scene with the boxes going on shipboard, and finally the ship was seen steaming down the harbor on its way to the London market.

It gave a very fine picture of all the plantation methods, and held the spectators in rapt attention. Many a rubber manufacturer who wants a good advertising medium might with advantage possess himself of a set of these films; they would make a marvelously interesting introduction to a brief story regarding his own product.

CEYLON.

The Ceylon exhibit, which was replete with interest, was in charge of Mr. F. Crosbie-Roles, whose previous experience at Chicago and St. Louis rendered him specially qualified for the office of Commissioner for Ceylon. He was assisted by Mr. E. B. Nathanielsz, a Sinhalese, who had come over with the exhibit. Rubber samples to the number of 64 were contributed by 32 estates, through 15 managing agents, distributed among the following classes: crepe, 2,192 pounds; scrap, 800 pounds; sheet, 150 pounds; smoked sheet, 104½ pounds; worm, etc., 129 pounds; total weight, 3,375½ pounds. The samples showed a judicious selection of the qualities in which Ceylon is at its best. They included one sample of block worm rubber from the Gikyanakande estate of G. H. Golledge, Neboda, which had been shown at the 1906 Ceylon exhibition and which was still in unimpaired condition.

Another sample exhibited was one of 30 pounds from L. Beliero specially prepared without acid by his new process. This sample was to be tried by a prominent American rubber company, after the close of the exposition.

In connection with the Ceylon exhibit there was distributed a "Ceylon Handbook," by R. H. Lock, M. A. Sc. D., Acting Director of the Botanic Gardens, Ceylon, and C. O. Macadam. An interesting series of tables shows the growth of rubber cultivation in Ceylon from 1,750 acres in 1900 to 230,000 in 1912.

The plantings show since 1909, a yearly increase of about 7 to 10 per cent. In Mr. Crosbie-Roles' opinion, it would be safe to reckon on an augmentation of 10 per cent. a year in plantings. The percentage of increase in yield depends, he added, not upon the recent plantings, but on those of five years before. Hence the increase in planting from 40,000 acres in 1905 to 100,000 in 1906 finds an echo in the advance of yield from 3,194 tons in 1911 to the estimate of 6,000 tons for 1912.

Exports increased from 19 tons in 1903 to 3,194 tons in 1911; having been for the last three years: 1910, 1,600 tons; 1911, 3,194 tons and 1912 (estimated, 6,000 tons).

Among the exhibits were 12 bottles of rubber latex from the director of the Royal Botanic Gardens, Peradenya, as well as five trunks of rubber trees from the same source. Desiccated cocoa nuts, plumbago, cocoanut oil, cardamoms, and other Ceylon products were likewise shown. Though not directly connected with rubber, they represent the produce of the island, on which was built up the present development of the rubber trade. Ceylon kept well in line at the exposition, which marks another step in its commercial progress.

Mr. Crosbie-Roles in conversation alluded to the advantage which American manufacturers had derived from being thus brought into touch with plantations, through the various Colombo managing agents, whose names appeared in conjunction with the plantation exhibits. The object of the exposition, in the dissemination of information about Ceylon had been fully attained.

One of the Ceylon samples (of the Rosehaugh Estate) has

been awarded the Silver Medal in the competition of the Rubber Growers' Association.

MORO PROVINCE, PHILIPPINE ISLANDS.

This exhibit was under charge of Dr. J. W. Strong, general manager of the Basilan Co., Commissioner of the Moro Provincial Government, as well as Mr. M. L. Stewart, Director for Commerce of the Philippine Islands, and Mr. J. R. Wilson, Assistant Director of the Government Bureau of Lands. Dr. Strong was obliged to return to the Philippines almost immediately after the opening of the exposition, so that his colleagues had charge during the greater part of the time.

In speaking with a representative of the *INDIA RUBBER WORLD*, Dr. Strong gave some interesting particulars of the present state of Philippine rubber planting. There are now, he stated, about 6,000 acres in the islands planted in rubber, chiefly *Hevea*, the larger portion having been planted since 1909. The Basilan Co., which has 660 acres planted, has been the first to enter the market with finished product from earlier plantings, having made shipments within the last few years to Hamburg and London. Arrangements have been made with Gravenhorst & Co., New York, to receive shipments of Basilan rubber, which was recently awarded a prize at the Philippine Exposition, Manila, and has been well received in Europe.

Among the samples exhibited were smoked and unsmoked Pará sheet; smoked Pará block; smoked Ceara sheet and block and Castilloa scrap.

The Moro Government exhibit also represented hemp, as well as the cabinet woods which abound in the Philippines.

HAWAIIAN RUBBER GROWERS' ASSOCIATION.

The commissioners for the Hawaiian Islands were the Hon. Wm. Williamson and Mr. Wilbur A. Anderson; but only the latter gentleman attended, the former having been unavoidably detained at San Francisco. Mr. Anderson occupies an important position, being general manager of the combination formed of the Nahiku Rubber Co., Hawaiian-American Rubber Co., and Koolan Rubber Co., as well as superintendent of the United States Experimental Station at Honolulu.

Special interest attaches to Hawaiian rubber from the fact that there are about 500,000 trees in the islands, mostly *Ceara*, chiefly planted before 1909 and thus now approaching the bearing stage. Further planting has been on a small scale from the desire to see the results of the earlier plantings now soon to reach maturity.

Tapping has just commenced of the trees planted in 1906, several thousand pounds having been shipped, larger and growing shipments being anticipated in the immediate future.

Analyses of the Hawaiian rubber which has reached New York have been extremely favorable. The samples exhibited were of pressed Ceara, the exhibit being in charge of Mr. C. A. Dann, representing Alexander and Baldwin (Ltd.), 82 Wall street, New York, agents of the combined companies referred to.

IMPERIAL INSTITUTE.

The interesting and valuable exhibit of the Imperial Institute, of London, was in charge of Mr. E. G. Salmon, the Commissioner. It was in two parts; the herbarium and the collection of rubber specimens; these covering, respectively, the botanical and the rubber growing features of the question. Upwards of 200 specimens of various kinds of rubber were displayed geographically arranged under their different sources. The inspection of these specimens was much facilitated by cards, with explanatory details as to the principal countries represented.

An interesting card attached to the exhibit of the Imperial Institute showed the distribution of the rubber production for 1910 among the British Crown Colonies and Protected States.

BRITISH GUIANA.

British Guiana was represented in the general collection of rubber samples exhibited by the Imperial Institute, as well as by samples of plantation Pará, *Sapium* rubber and balata shown by courtesy of the Institute in a separate glass case near its exhibit.

REPUBLIC OF HONDURAS.

Senor R. Camilo Diaz, Consul General at New York, looked after the interests of Honduras, which was represented by samples of crude rubber from the Republic.

FRENCH INDO CHINA.

This exhibit consisted of sheet rubber made in 1910. In connection, there was distributed a booklet by M. J. Lan on *Hevea Brasiliensis* in Cochin China, translated into English by M. G. Jason, of Sargon.

DUTCH GUIANA CULTURE CO.

Messrs. Ray C. Holbrook and J. E. Williams were in charge of the exhibit of this company, which included plantation Pará from trees 5-8 years old; wild Pará; *Castilloa elastica* ball and scrap.

Planting has been carried on for about 18 months at Plantation de Vrede, Dutch Guiana, where there are now 50,000 rubber trees which have been planted a year and a half. In addition there are 5,000 which have been planted 12 months, and 2,000 planted six months ago.

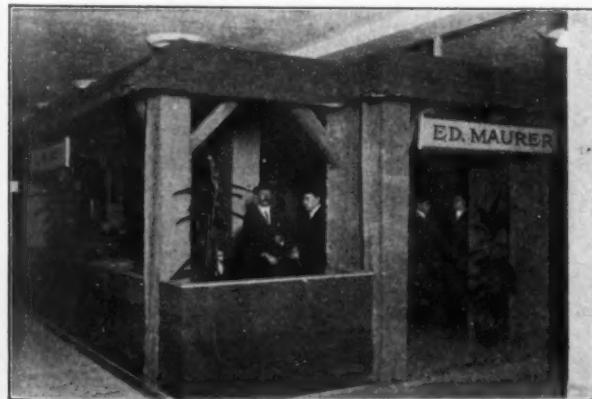
This company is specially interested in pushing Dutch Guiana products, and distributed a neat booklet descriptive of the Plantation de Vrede, as well as another of a more general character, entitled "Description of a Surinam Plantation." The trees now planted cover an area of about 300 acres interplanted with coffee trees. It is in contemplation to increase the plantings at an early date by a further area of 500 acres. The company's headquarters are at Chicago, Harris Trust Building.

THE BARTICA CO.

This company, which had an exhibit, reports that it has on its plantation in British Guiana, 250 acres in Sisal, interplanted with rubber, and 600 acres only in *Hevea*. It contemplates planting 600 to 1,000 acres a year in rubber.

ED. MAURER.

Mr. Ed Maurer and Mr. W. Greutert had charge of this exhibit, which included the following classes of rubber; Ceylon and Ma-



ED. MAURER'S HOUSE OF RUBBER.

lay plantation; Brazil of all kinds; Africans (fifteen varieties), Borneo and Central American; as well as guayule and balata, which form a specialty of this firm's trading; and finally gutta percha. The exhibits were shown to advantage in a handsome pavilion made of Ceylon rubber.

NEW YORK COMMERCIAL CO.

This exhibit attracted many visitors. It included: Upriver fine; Islands fine; wild rubber from Congo, Kamerun, Mexico and Panama; Guayule; Maniçoba, Sierra Leone niggers; planta-



NEW YORK COMMERCIAL CO.

tion rubber from Dutch Guiana and Java. Mr. A. W. Stedman was in charge of the exhibit. The Boston-Bolivia Co. exhibited samples of fine Pará through the New York Commercial Co.

MEYER & BROWN.

This firm showed samples of *Hevea* in pale and smoked crepe, also block, smoked sheet and scrap, as well as Rambong crepe. In addition, they showed Congo Lobay, white Lopari, Congo Sangha, Central American Sausage; besides Massai, Java and Mozambique rubber.

HENDERSON & KORN.

The samples exhibited by this firm included pale, brown and dark crepe, also smoked sheet and ribbed smoked sheet; in addition to Java crepe and block. They were represented by Messrs. Ernst Korn, F. R. Henderson and Bancroft Henderson, of the New York office, and H. Henderson, of the Akron office. A comfortable inner-room enhanced the attractiveness of the pavilion occupied by this firm.

THE UNITED MALAYSIAN CO.

The United Malaysian Co., of New York, London and Singapore, had an interesting exhibit in the balcony with the other crude rubber exhibits. Its booth was not elaborate, but was picturesque and inviting, being roofed over with palms, indicative of the Tropics, and having many sheets of crepe rubber hanging from the posts, and covering railings; besides many large photographs of the country in which this company operates, showing its plants, its coolies at work tapping trees in the jungle, and other interesting scenes.

Elsewhere in this issue there will be found an illustrated description of the work done by this company, with some facts relative to its particular product—Jelutong. This article will probably be of interest to all those who have given any attention to the various products of the Middle East.

A VARIETY OF RUBBERS.

Charles T. Wilson showed guayule gradés; Mexican crude and refined Colorado; deresinated Colorado; *Hevea*; Maniçoba crepe from German East Africa; Mozambique crepe; *Castilloa*. Mr. Wilson and Mr. Henry Perlish were in charge of the exhibit.

RUBBER TRADING CO.

The samples exhibited by this company included a general line of Parás, plantations, African and Centrals, in which a satisfactory business had been done in the course of the exposition. Mr. Robert B. Baird was in charge of the exhibit.

OHIO GROWN RUBBER.

An excellently arranged show case was displayed by Mr. Charles P. Fox, of Akron, containing samples, representing Ohio-grown rubber in various forms. These had been respectively derived from *Apocynum* or Indian hemp and *Asclepias* or milkweed and represented the latex, as well as the resin, coagulum and rubber.

THE GENERAL RUBBER CO.

This company had an attractive pavilion, showing the names of its subsidiaries: General Rubber Co., of Brazil, Pará and Manáos; General Rubber Co., of Singapore; Wm. Symington & Co., Limited, London and Liverpool; Holland-American Plantations Co., Kisaran, Ashan, Sumatra; Netherlands Langkat Rubber Co., Tandjong Poera, Langkat, Sumatra.

A CENTRIFUGAL RUBBER COAGULATOR.

At the booth of the Empire Cream Separator Co., Bloomfield, New Jersey, Mr. G. M. Lescher, inventor of the process, was in charge and explained the advantages of the Empire Centrifugal Rubber Coagulator. This machine has met with much success in Mexico.

THE RAW PRODUCTS CO.

Mr. Samuel Kubie, president and treasurer, and Mr. F. H. Peaty, secretary and manager, represented this company. They received the visits of many friends during the exhibition.

OSTERRIETH & CO., ANTWERP.

This firm of prominent Antwerp importers showed a small but interesting exhibit of standard qualities of crepe plantation rubber. It included thin pale, grade I; thin, grades II and IV; thick pale, grade I; thick, grades II and IV.

THE FOREIGN PRESS.

The "Gummi-Zeitung" of Berlin, "Grenier's Rubber News" of Kuala Lumpur, and the "Rubber World" of London, were represented in the crude rubber section.

RUBBER FERTILIZERS.

The German Kali Works, 42 Broadway, New York, representing the Kalisyndikat of Berlin, distributed copies of literature descriptive of their fertilizing products, including a pamphlet on the "Manuring of Rubber," by Arthur Stephen, an English expert on the subject.

THE MANHATTAN COMPANY IN JAVA.

The Manhattan Rubber Manufacturing Co., Passaic, N. J., has found it desirable to add the cultivation of rubber to its manufacture, by means of its own plantation in Java. Increased importance is anticipated for this branch of its business.

SALE OF SAMPLES BY INSCRIPTION.

The large quantity of samples sent to the Exposition for display or competition (and which had not been sold privately, or otherwise cleared) was disposed of by "inscription," on the plan customary in various continental markets. Bids were received by the New York Commercial Co. until 4 p. m. on October 3, the last day of the exposition. Following are the prices obtained, which turned out to be exceptionally good, as the market has since been a declining one:

Brazil Rubber—

Amazon Fine Pará.....	\$1.15 per lb.
DaCosta Process Hevea, smoked.....	1.64 per lb.
" " " unsmoked.....	1.64 per lb.

Rubber from Federated Malay States,

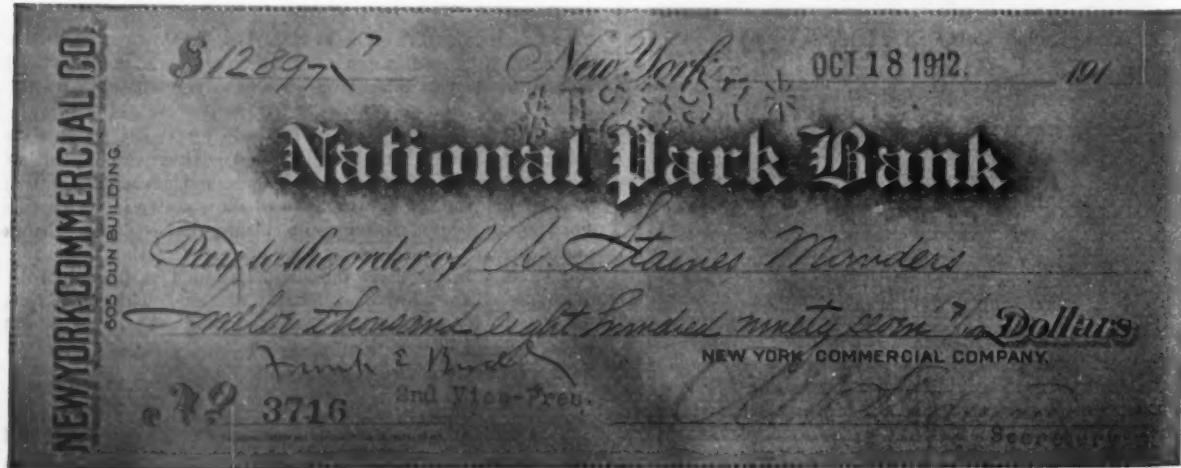
" " Ceylon, and	
" " the Rubber Growers' Association—	

Block Rubber	\$1.19 $\frac{1}{4}$
Smoked Sheets	1.13—\$1.18 $\frac{3}{4}$
Unsmoked Sheets	1.10
Crepe	1.11—1.17 $\frac{1}{2}$
First Latex Crepe.....	1.11—1.12
Scrap Crepe	1.03 $\frac{1}{2}$

In this distribution of the samples exhibited, throughout the American industry, the main object of the Exposition has been attained, through the more intimate knowledge consumers have thus gained of the rubber supplies at their disposal, both in wild and plantation varieties. The weights of the samples have ranged in most cases from 50 to 112 pounds. There was in all instances enough for a practical test.

AN INTERESTING CHECK.

Here is a rubber check of more than passing interest—not because of the size of the amount—for that is not so particularly large. The interest in the check shown below lies in the fact that this represents the first payment made for plantation rubber ever sold at a public sale in New York. This sale took place on the last day of the Third International Rubber Exposition, recently held at the Grand Central Palace.



CHECK PAID FOR FIRST PLANTATION RUBBER EVER SOLD AT PUBLIC SALE IN AMERICA.

THE EXPOSITION PRIZE COMPETITIONS.

Two competitions marked the course of the Exposition. One was for the \$1,000 silver trophy, which had been presented by Mr. Henry C. Pearson, editor of *THE INDIA RUBBER WORLD*, an illustration of which appeared in the special Exposition number. It was awarded on the merits of the samples exhibited, no special entry being required. It was won by the State of Amazonas. The presentation of the shield through the Brazilian Ambassador was one of the features of the closing banquet.

The other consisted of the gold, silver and bronze medals (each with diploma) of the Rubber Growers Association, London, awarded for the three samples of Plantation Rubber (irrespective of the method of preparation or country of origin), specially entered for this competition, which may be placed highest by the jury. The entries were 135 in number, of which 75 were from Malaya, 54 from Ceylon, 3 from Burma, 2 from Brazil and 1 from German East Africa. The list of awards follows:

Highlands and Lowlands Estate, Federated Malay States—First award, smoked sheet; gold medal.

Rosehaugh Estate, Ceylon—Silver medal.

West Country Estate, Federated Malay States—Bronze medal.

Klanang Estate, Federated Malay States—Smoked sheet; highly commended.

Bukit Rajah Estate, Federated Malay States—P. R. crepe; highly commended.

Maddagebera Estate, Ceylon—crepe; highly commended.

Cicely Estate, Federated Malay States—Pale thin crepe; commended.

Highlands and Lowlands Estate, Federated Malay States—Unsmoked sheet; commended.

Batu Caves Estate, Federated Malay States—Smoked sheet; commended.

The West Country Estate, Federated Malay States—Commended.

The medals were presented to the successful competitors at the Exposition banquet, through Messrs. Cyril E. S. Baxendale, F. Crosbie-Roles and Leonard Wray; the results of the two competitions illustrating the views expressed on that occasion that wild and plantation rubber can harmoniously co-operate for the benefit of the industry.

RUBBER STREET PAVING.

LOOKING ahead a few years when low priced rubber may make the article economically available for street paving, the "Standard Asphalt & Rubber Co." of Chicago, through their selling agents, Geo. A. Alden & Co., of Boston,



made an exhibition of what "Sarco" and "M. R. X." will do for the purpose.

The exhibit consisted of rubber bricks 8 x 4 x 2½ inches,

having grooves along the sides as shown in the accompanying cut.

The wearing surface on top, one inch thick, contains 50 per cent. of M. R. X., and 25 per cent. of rubber, etc., a mixture of



sufficient tenacity to resist the wear and tear of street travel and to remain unaffected by weather changes.

The base or underpart of these bricks is of "Sarco." They are to be laid an inch apart, the spaces all around being filled with melted "Sarco." This, flowing into the horizontal grooves, will form, when cooled, a dove-tailed anchorage to prevent the bricks being pried up in the night and carried off to the junk shop; and at the same time prevent the slipping of the horse and the skidding of the motor car.

A practical demonstration of the wearing quality of the top rubber and "M. R. X." surface of the bricks was given by means of an old fashioned tread mill, in which a relay of horses sharpshod with heel and toe caulk, pounded along in an endless journey to nowhere, on lags or treads made of the "M. R. X." mixture, without in the least cutting or bruising them.

An amusing incident occurred in connection with this exhibit that affords a striking illustration of the eccentricities of the human mind. These horses, one white and the other black, were hired from the "Ben Hur" show, where they mightily appear in the great feature of the chariot race, running on movable platforms revolving against them.

The groom in attendance on these animals, a thoroughbred circus man, knowing horses from forelock to fetlock, after observing the pair go through their paces in the tread mill for several days, finally toward the close of the exhibition, circled curiously around the machine and said to Mr. Whitehouse, Alden's attendant: "Say! I don't see where the power is jined on that makes this thing go!"

NORTH BRITISH RAILWAY TESTS.

In the specifications for buffers, issued by the North British Railway Co., it is stipulated that after 48 hours' compression, the rubber should return to one-half its original size, and should likewise sustain without injury 40,000 strokes of a hammer.

This certainly is rather heroic treatment for rubber buffers, but buffers can be made to stand these tests if a sufficiently good quality of rubber is used. The question naturally arises whether this class of goods would warrant the use of such high grade rubber as this test would call for.

The Exposition Banquet.

ON the evening of October 2, the Grand Exposition Banquet was held in the ball room of the Hotel Plaza, New York. It was a signal success—both in the number and character of those present, and in the quality of the after-dinner speaking which was of an unusually high order. About 120 were present, including the officials of the Exposition, commissioners and delegates from foreign countries, and American exhibitors. Fifteen or twenty ladies, wives of officials and delegates, were also present as guests. The hour was set for 9 o'clock, and with unusual promptness all were at their places at the tables very soon after that hour. Mr. Henry C. Pearson presided, with the following gentlemen seated at his table: On the President's right, Dr. Domicio da Gama, Brazilian Ambassador to the United States; Leonard Wray, Commissioner from Malaya; A. Staines Manders, Organizing Manager of the Exposition; Dr. Candido Mendes de Almeida, President of the Brazilian Commission, and Admiral Jose Carlos de Carvalho. On the President's left: Hon. John Barrett, President of the Pan American Union; J. J. Broderick, Acting British Consul General in New York; F. Crosbie-Roles, Commissioner from Ceylon; Professor William Goodyear, Curator of the Brooklyn Institute of Arts and Sciences, and son of Charles Goodyear, and Professor Franklin W. Hooper, of the Brooklyn Institute of Arts and Sciences.

When all had found their places, the chairman arose and announced that in accordance with an excellent and time-honored custom which had come down to us from our fathers, the dinner would begin by saying Grace, and he called upon the Rev. Dr. S. Parks Cadman of Brooklyn.

The menu, to which nearly two hours were devoted, was unqualifiedly attractive, as will be seen below.

INTERNATIONAL RUBBER BANQUET

The International Rubber & Allied Trades Exposition

MENU

Pommes Plaza

—
Potage Julienne-Mongole

Céleri ————— Olives

Filet de Flétan au Vin Blanc

—
Pommes à l'Etuvée

Quartier d'Agneau Rissolé

—
Garniture Printanière

—
Sorbet Palm Beach

—
Chapon Farci Rôti

—
Salade de Saison

—
Glace Aurore Boréale

—
Friandises

Graves
Medoc

Dry Monopole Brut
& Red Top 1904

Liqueurs
Kristaly

The PLAZA,

Wednesday, October 2, 1912.

A little before 11 o'clock, the President arose and spoke briefly as follows: "These are times of much political interest in the United States, and there are, undoubtedly here present tonight adherents of the amiable Elephant, the docile Donkey, and the vociferous Bull Moose, but I think we can all join heartily in the toast which I am about to propose—a toast to the patron of this Exposition—the President of the United States." All arose to respond to this toast, which was drunk with enthusiasm.

The President then introduced the first speaker of the evening, as follows: "We have with us tonight a gentleman distinguished in diplomacy; he comes from a great country—great in rubber and great in other lines. It is difficult to propose a set toast to one who has been distinguished in so many different departments. He had served his country conspicuously at home—in Brazil—and in Peru and the Argentine Republic before he was sent to America. That he should come tonight from Washington especially to be with us on this occasion is a great compliment. I have the pleasure of presenting Dr. Domicio da Gama, Ambassador from Brazil to the United States."

Dr. da Gama: "I must ask your indulgence for the insufficiency of my English; and yet, perhaps, I should not be ashamed of my English, as with me it is a purely exotic product; but you see before you a truly embarrassed man, for while I have attended many banquets—some cheery and gay—some sad and gloomy—some given to me—and some which I had to give, I never before have attended a rubber banquet. You know a great deal more about rubber than I do, for I come from the south of Brazil, where rubber does not grow, and I confess that I never saw so much rubber before in my life as I saw today at your Exposition. But I esteem this a most important occasion, because it makes for international fraternity, through international trade. Those men down on the Amazon who are gathering the rubber may think that they are working only for their own interest, but in truth they are working for the interest and welfare of the whole world. We are the producers of rubber, and you the consumers, and I hope that the commercial relations between Brazil and the United States will grow better and stronger with the years, and that the United States will take an even more conspicuous position in the markets of Brazil."

THE PRESIDENT: "That was a happy thought in having the flags of Brazil and Great Britain draped together at the lower end of this room, for the exhibits that have been sent to us from Brazil and the Malay States have been wonderful; but the American flag which hangs back of this table should have been down there too, and the three hung side by side. Speaking of Great Britain, every American traveler has a most kindly feeling towards the British Consul, because—in years gone by, at least—whenever an American traveler in any part of the world needed help he invariably turned to the British Consul—and never in vain. I have the pleasure of introducing to you Mr. J. J. Broderick, Acting Consul General of Great Britain in New York."

MR. BRODERICK: "It might naturally be expected that I would address you on the subject of rubber, but I must confess a most Stygian ignorance of this subject, except that I know that the rubber industry—especially the rubber planting industry—has enjoyed a most extraordinary growth in the immediate past. It is my first duty to express the regrets of the British Ambassador at Washington, because of his inability to be with you tonight, and to express the regret that I know you must feel in not being able to listen to the Hon. James Bryce, whom

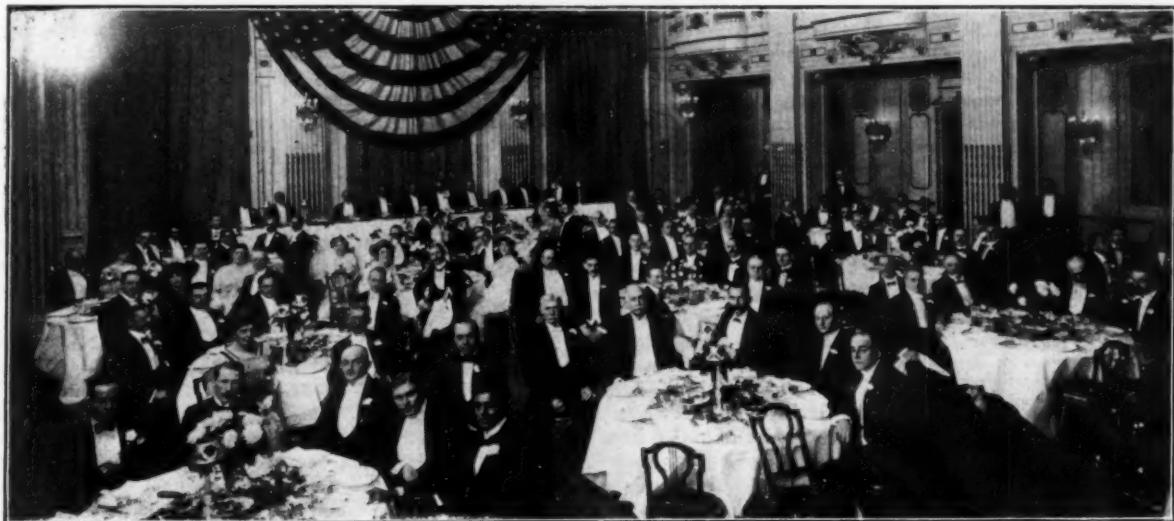
you have known from your school days; for his book on the American Commonwealth, has long been the *vade mecum* of American students. If he were here he would express to you in his admirable manner the importance that he attaches to this gathering of rubber men."

Mr. Broderick here introduced very cleverly one or two most amusing stories and then continued: "But your chairman has limited my time to 5 or 6 minutes, so I can only add that I esteem it an extreme honor to be asked to address you, and I speak not only for myself, but for all the representatives of Great Britain here, when I express my sincere appreciation of the great hospitality that we invariably receive from our cousins in the United States."

THE PRESIDENT: "I think everybody on this round earth who knows either English, Spanish or Portuguese, knows of the Pan American Union, and of its live wire, the Hon. John Barrett."

MR. BARRETT: "In making a special effort to get to this banquet—leaving Washington last night on the midnight train, and

tary, that the Amazon country, and other countries similarly situated would increase enormously in population and commercial activity. He spoke at some length regarding the natural advantages of the Amazon country, and of the rapidly growing cities of Brazil. He said that Brazil had spent more money and more energy in the last ten years in developing her resources than had been spent by the United States. He cited the building of railroads, the founding of agricultural schools and colleges, and other instances of the awakened spirit of modern progress. He outlined the work of the Pan American Union, of which he is the executive officer, which without any antagonism to the rest of the world, is seeking to bring all the countries of the American Continent together for their mutual good and permanent welfare. Referring again to the Rubber Exhibition he said: "If I had had my way, Dr. Leipziger would have brought all the boys and girls of the public schools of this city to this great exhibition so that they might realize something of the products of South America, and I would have had all the members of the commercial organizations of



THE BANQUET AT THE PLAZA.

returning thither on the midnight train tonight—I show the great importance that I attach to this occasion. I must congratulate you, however, on the fact that I am compelled to return on the midnight train—otherwise, I might not be so inclined to set a proper time limit on my remarks. Your chairman has spoken of our political emblems. In view of the unique character of the present campaign, I think a most fitting emblem would be a rubber ball. The Brazilian Ambassador has told you that among the banquets he has attended there have been some marked by gloom. I can hardly believe this; I do not think there is ever any gloom where the Ambassador is."

Mr. Barrett went on to describe a famous international banquet where the Brazilian Ambassador had spoken with unusual eloquence and had greatly impressed his hearers. He eulogized Dr. da Gama, and paid a fine tribute to his predecessor, Dr. Nabuco, whom he described as a man of gentle character, keen wit, and profound learning, and whom he called the greatest diplomat of his time. He spoke of the wonderful development of Brazil and the rapidity with which that country has taken her position among the great world powers. He sketched the awakening of the tropical countries because of the solving of the problem of tropical sanitation by Colonel Gorgas at the Panama Canal. He prophesied that by reason of this demonstration the tropics would be made perfectly sani-

this city come to this great international show so that they might have some appreciation of what the countries to the south of us are doing. You have often heard cotton called 'king,' and you have often heard corn called 'king,' but I believe that rubber is now 'king.' I was walking along Fifth avenue this afternoon. I didn't see much cotton. The ladies promenading on the avenue were certainly not wearing cotton—nor did they look as if they were 'corn-fed.' But rubber was everywhere; the avenue was filled with automobiles, all moving swiftly and silently on their rubber shoes. It was time that we had in this country a great Rubber Exposition, and I heartily congratulate you on the pronounced success of this enterprise."

THE PRESIDENT: "It would be presumptuous to comment on this magnificent address. We are proud that Mr. Barrett is an American, and we are proud of his breadth of view, and we appreciate the truth of what he has said about the great Republic to the South."

At this point, several medals and diplomas were laid on the table before the chairman, and he was asked to hand them to those to whom they had been awarded by the various committees selected to pass upon exhibits.

A gold medal with diploma for the best plantation rubber was handed to Mr. Noel Trotter, who took it in behalf of the

Highlands and Lowlands Estate of the Federated Malay States. A silver medal with diploma for the second best sample of plantation rubber was handed to Mr. Crosbie-Roles in behalf of the Rosehaugh Estate of Ceylon. A bronze medal with diploma for the third best sample was given to Mr. Leonard Wray for the West Country Estate of the Federated Malay States. Mr. Pearson then took in his hand the large solid silver shield about 15 or 16 inches in height, very handsomely engraved, which had been offered for the best sample of wild rubber. He said that in presenting this he was obviously in an embarrassing position, because owing to the fact that this shield was offered by THE INDIA RUBBER WORLD he could hardly make the comments on it that he would have made if it had come from some other source; consequently, he handed it without comment to the Brazilian Ambassador in behalf of the state of Amazonas, to which it had been awarded.

After the awards of medals and diplomas the chairman continued: "The brave spirit that made such trophies possible, that made our presence here tonight possible—was Charles Goodyear. Many have forgotten his struggles and successes, but during the past ten years—what I might call the rubber conscience has been considerably disturbed, because nothing has been done in commemoration of this great man, and we have come to hear much about the propriety of erecting to him some suitable memorial. Professor Hooper, of the Brooklyn Institute of Arts and Sciences, will speak upon Charles Goodyear.

Professor Franklin W. Hooper, who responded to this toast, made an exceedingly eloquent address, and paid a fine tribute to the great genius and exalted character of Charles Goodyear. He spoke in part as follows:

"It is indeed true, as the chairman has said, that this exhibition would have been impossible—it is true the whole progress of the arts and sciences would have been held in check, had it not been for the discoveries and inventions of Charles Goodyear. We have had many famous inventors and discoverers in this country, but he was the greatest of them all. Beginning as the son of an inventor, his genius displayed itself before he was 27 years of age, and following out a God-implanted purpose and a destiny that he could not resist, he sought how he could serve humanity by making rubber, which up to that time had been a valueless product, serve some widely useful end. Between the ages of 34 and 44—for 10 long years—he wrought day and night, in season and out of season, and under all conditions, to make this product, not profitable to himself, but valuable to all mankind. When in 1844 he took out his first patent for Vulcanite, he laid the basis of the great industry which we are here tonight to celebrate."

Professor Hooper called attention to the fact that while other great discoverers and inventors like Morse with the telegraph, and Dr. Wells with the discovery of anesthesia, had the assistance and co-operation of collaborators, Goodyear worked alone through a long period of unrelieved hardship and self-sacrifice. "To show how thoroughly Goodyear did his work," Professor Hooper continued, "at the time of Goodyear's death rubber had been applied to 200 of the leading industries, and of these 200 different applications Charles Goodyear was the inventor of over 95 per cent. There has been no important new application of rubber since his death. The tire, of which we hear so much today, is but an amplification of the tubes he made in the 40's. But he was more than an inventor and discoverer. He was a wonderful character, and we are to be thankful not only for his industrial victories, but for the purity and simplicity of his heart and mind. He had the qualities of that other great American whom we all love and revere, Abraham Lincoln, and as on the banks of the Potomac there stands a fitting monument to the life and character of Abraham Lincoln, so in the national capital there should be

some fitting memorial to Charles Goodyear. There should be a permanent exhibition of all the processes and discoveries in the rubber industry during the last three-quarters of a century, and in the midst of that great exhibition should stand a noble monument to that great inventor and American saint Charles Goodyear."

THE PRESIDENT: "The next toast is a very comprehensive one, 'The Rubber Industry,' but I will ask Dr. Huber to speak specifically on the rubber forests."

DR. JACQUES HUBER: "Having been summoned by our chairman to speak in the name of the forest or wild rubber industry, I am aware that I am not only representing the State of Pará (the typical locality of the typical rubber tree, as we botanists would say) and my Brazilian friends here present, but the whole community of the wild rubber producers of tropical America. But who are these wild rubber producers of tropical America? As a rule, you will not meet them in rubber conferences or expositions, nor even in rubber banquets. If we make exception of Guayule and some other rather exceptional concerns, there are no well organized companies with directors and advisers and staff of managers and visiting agents. Even the owners of rubber forests cannot be considered as the true producers, as they generally buy the rubber from the rubber gatherers, the hard-working and intrepid pioneers of the South American 'selvas.' These plain and often ignorant men are the true producers of the best kind of rubber. Their heroic struggle with the wilderness of the Amazonian forest is perhaps one of the most emotional chapters of human efforts to conquer the treasures of nature. Without the activity of these men, the streets of New York would probably present quite another aspect, as it can hardly be imagined that the motor car industry would have taken its actual development without 'Upriver fine.'

"The origins of the wild rubber industry are humble, but they are characteristic of the genius of the American race, and they can be considered as the starting point not only of the present flourishing wild rubber industry, but also of the whole manufacturing industry. The South American Indians, who made the gambling balls, the boots and the bottles of crude rubber, were not only crude rubber producers, but also manufacturers. The modern times, of course, require specialization, and the rubber boots we wear are no more made by Indians. Specialization is not possible without scientific work and scientific organization. In the planting industry, organization has already shown astonishing results. Science and scientific methods have now to be applied also to the wild rubber industry; increasing its vitality by giving it a proper organization.

"The plantation industry is like to a field, where, on the advice of men of science, wealthy England has sown broadcast the golden seed of its capital and initiative, harvesting already promising results. The forest rubber industry, on the other hand, is comparable to a large and venerable tree, whose birthday is unknown, but whose roots are well fixed in tropical America's early history and industrious population. The tree has grown up with a large trunk and wide-spreading crown, but although it has already produced a number of golden fruits, it has not yet given its full crop. Many branches must be cut out to give it light and air, but under the hands of skilful gardeners it will make a new start and grow and flourish to honor its American origin and the American genius."

THE PRESIDENT: "Mr. Cyril Baxendale will continue this subject, speaking from a planter's standpoint."

MR. BAXENDALE: "I feel very much like a certain character in one of Disraeli's novels. I have a feeling in my heart which may be indigestion, or it may be gratitude—I cannot tell which. I have a subject to which I would like to devote 6½ hours, but I am limited to 6½ minutes. By those who know my country, it is recognized that its representatives are famous for their

humility. We came here expecting to teach America, but we have found that there was much more for us to learn. We came to teach the American manufacturer to try our plantation rubber, and here discover that out of 10,000 tons shipped this year 6,500 tons came to New York. I find an idea in America that all plantation rubber is 'Highlands and Lowlands.' I assure you that while 'Highlands and Lowlands' rubber is of excellent quality, it is not quite so elastic as that. Our plantation rubber comes from 600 estates. It is very desirable for you to induce the growers to brand their rubber. The American manufacturer should insist on receiving rubber in the cases in which it is shipped. There are some dealers in London and Liverpool—or let us say of the Old World—who do not respect brands and do not forward rubber in the cases in which it is received. Americans should import their rubber direct from the East." Mr. Baxendale laid considerable emphasis on this point.

"In conclusion I would like to express the sense of the obligation felt by the whole industry to Mr. Manders, who has been so active in interesting the various powers in this exhibition, and for the very successful result he has achieved, with the assistance of his indefatigable and ever charming secretary, Miss Fulton, and finally I wish, in behalf of the rubber planters, to thank you for the great kindness which you have shown the 'stranger within your gates.'"

THE PRESIDENT: "Mr. Baxendale anticipated me in what he said about Mr. Manders. I was and am going to call upon Mr. Manders to tell us something about this Exposition, and about the prospects of another."

MR. MANDERS: "We have heard a good deal this evening about the hospitality of this country. I endorse it all—for yesterday it presented me with a first-class cold—as you will observe—rendering it impossible for me to make any detailed remarks. I wish simply to express my thanks and the thanks of Miss Fulton to all those friends here and abroad who helped us to bring this Exposition about—to the Governments that have sent their exhibits and their representatives here, that have sent to New York such fine specimens of rubber from every rubber producing country on the globe. I shall not speak of the tremendous amount of labor that has been involved in bringing this Exposition to pass—nor shall I undertake to speak regarding another Exposition here, but as you doubtless all know, there will be another in London in 1914, where I sincerely hope to meet my many friends from this and other lands. Because of this atrocious cold I will have to ask you to excuse me from further remarks."

CHAIRMAN: "We have with us tonight a friend from Dutch Guiana, who enjoys a wide reputation for his gift of oratory—Mr. O'Connor."

MR. J. L. O'CONNOR: "After listening to all these words of eloquence I am more than ever impressed with the art of the after-dinner speaker. The first duty of the after-dinner speaker is to be surprised." Mr. O'Connor went on in an amusing vein to depict the science of after-dinner oratory, and the best methods of preparing an eloquent after-dinner effort. He cited an instance in his own career where he attended a Venezuelan dinner, and had made more or less elaborate preparation for the oration which he knew would be expected. To his great consternation, the speaker who immediately preceded him delivered his own address verbatim—having bethought himself of the same source of supply—the Encyclopedia Britannica. He told a story of a farmer in Ohio who had read some of Mr. Pearson's writings on the West Indies, and was quite impressed with the possibilities of those islands, but seemed to feel considerable apprehension regarding the hurricanes that are alleged to visit that section from time to time; so he wrote to one of the officials at Trinidad and asked if there was not some variety of rubber tree sufficiently elastic to be able to bend before the hurricanes without being injured. In conclusion he said, "We are all under obligations to Mr. Manders and Miss Fulton

for the work they have done here and the difficulties which they have overcome, of which we have little conception. We are greatly indebted to them for bringing here to America—the country that uses over one-half of the rubber production of the world—this great Exposition of crude rubber and of all the myriad articles that are manufactured out of it."

THE PRESIDENT: "Now that the representatives of the New York press have withdrawn, I will call upon Mr. Salmon to speak for the press of Europe."

MR. EDWARD G. SALMON spoke in part as follows: "We have just been told that over one-half of the crude rubber of the world comes into New York. I am disposed to think that quite a little of that goes into the offices of the New York newspapers—judging from the extreme elasticity of many of their statements. This Exposition has been a great object lesson in many ways—chiefly perhaps in the rivalry it has shown between the great rubber country of the South—Brazil, and the planters of the Middle East. Great credit is certainly due my countrymen in Ceylon and Malaya for the wonderful way in which they have developed this adopted tree. Their success has been a challenge to Brazil, and we have seen in this Exposition the alert and aggressive manner in which Brazil has accepted this challenge. It is a rivalry on a stupendous scale—but entirely friendly. I wish there were present here to speak for the press of Europe, some representative of a great European paper, but as a humble representative of the European press I thank New York and America for the courtesy and hospitality that has been shown to us all, and simply express in addition the hope that we may all have an opportunity to accept your hospitality again."

THE PRESIDENT: "Mr. Salmon has spoken to us about the wonderful development in the Middle East. I am going to ask Mr. Crosbie-Roles to tell us more about it."

MR. A. CROSBIE-ROLES: "To the man who sits at his desk—to the stay-at-home—the Middle East seems far distant; but way beyond us—out in the Spice Islands—they have a daily paper. Colombo, by the way, has five daily papers, and it is the seventh harbor for tonnage in the world—an alert and enterprising town. We perhaps could hardly expect American capital to be attracted such a distance, but some of it has been attracted to the Middle East, as is shown by the enormous plantation of the United States Rubber Co., in Sumatra, where over 22,000 acres have already been planted, and well planted to rubber. Direct trading between the rubber growers of the Middle East and the American manufacturers is natural and logical, and will soon come about. Unfortunately, cable rates still stand at 2s. a word, notwithstanding the decrease in cable rates across the Atlantic. One great benefit from an Exposition—like this just closing in your city—lies in bringing together the different members of the same industry from the different quarters of the earth. These Expositions make for good will and friendship and for increased commerce."

THE PRESIDENT: "In conclusion we will have a final word from Dr. Argollo, who will speak on the press of Brazil."

DR. J. DE ARGOLLO: "Hard lines indeed for me to speak after the eloquent toast made by my clever colleague of the European press. I am not a wealthy citizen of the growing and powerful United States nor an Englishman, but only a Brazilian, a stranger. I feel alone, but morally obliged to say something, because in rubber questions and interests, Brazil cannot remain silent."

"Dr. Huber, the greatest scientist of Brazil on this subject has exhausted the most interesting side of the question of wild rubber as a product of the enormous Amazonian Valley, but most fortunately for me, he did not mention one of the sources of Brazil's progress, development and wealth; he did not refer to the press, as useful as dangerous, according to its display of power."

"In Brazil, the press is a political and instructive guide, but

in the present case we shall only mind about the latter and consider it as a school where the free citizens of the greatest Republic of South America try to learn what is going on throughout the world. There, they have followed the growing wealth of rubber plantation in the East. They have seen appearing on the stage of commercial struggle, a young competitor born from the seeds taken over, less than forty years ago, from the Amazonian Valley, by a clever and intrepid explorer, Mr. Wickham. In this growing child, in the *Hevea* of the East, they have not only seen a competitor in the near future, but also a teacher who has opened their eyes and showed them what they had to do to keep up their rubber wealth and avoid a crisis, in consequence of their indifference, in the East. Brazilians welcome healthy rivalry; they know the world is large enough, and will grow larger still in the using of rubber. Yearly the markets increase.

"There is no reason why the rubber of the Brazilian jungles and the fine product of the East should not live in peace. It is sometimes said that one of the rubbers will knock out the other. But why? Rubber is rubber, and very elastic, and you know it does not split. We Brazilians think that rubber of the jungles and rubber of the East are born to live and grow together as healthy friends. Brazil and the East will grow like

brothers, for their respective common weal, and the necessities of humanity. Drink to the everlasting union of the two rubbers by the aid of the international press."

At the conclusion of Dr. Argollo's speech, Mr. Arthur W. Stedman arose and said: "I wish to propose a toast to a noted writer, the editor of a great paper, a strong character, frank and fair with all alike, beloved by his friends and admired by his enemies—Mr. Henry C. Pearson." This toast was drunk standing, and was immediately followed spontaneously by the song, "For He's a Jolly Good Fellow," in which every one joined.

MR. PEARSON: "I have been exceedingly touched by this toast so pleasantly expressed; I wish that I could say all that is in my heart; I wish that I could tell you how much I appreciate this expression of your kindly feeling; but you know it is now tomorrow, and if I should respond fittingly it would be day after tomorrow, so I will simply thank you all."

"In the refrain that you just now sang, I heard one exceedingly musical voice—I think it was Mr. Baxendale's. I am going to ask him to sing the solo of "Auld Lang Syne," with all the rest of us joining in the chorus, and with this we will bring this exceedingly happy occasion to a fitting close."

The Third International Rubber Conference.

FIRST SESSION, TUESDAY, SEPTEMBER 24, 1912.

THE Third International Rubber Conference opened in one of the spacious chambers of the Grand Central Palace, Tuesday afternoon, September 24, at 2 o'clock, with an attendance of about 150 delegates, including representatives of the plantation interests of the Far East, exporters of wild rubber from the Brazilian forests, manufacturers of rubber goods, as well as consumers of those products.

This is the first time in the history of the rubber industry in America that a successful attempt has been made to bring together such varied interests under one roof. The importance and interest of the gathering, and the discussions which were brought out, as the result of the papers offered, fully justified the large attendance, which was observed at all the meetings of the Conference.

After an address of welcome by the president, Mr. Henry C. Pearson, the session opened with a paper on "Rubber Contracts," by Mr. Arthur W. Stedman, a rubber importer of New York City.

This was followed by a most interesting paper on "The Plantation Industry" by Mr. Cyril E. S. Baxendale, Special Delegate from the Malay States Planters' Association. This paper was followed by a very animated discussion, in which both producers and consumers of plantation rubber took a lively interest. Among the speakers were: Mr. Frederic C. Hood, Mr. Crosbie-Roles, Mr. Geo. B. Hodgman and Dr. J. de Argollo of Bahia.

The paper on "Various *Manihots* Producing Rubber in the Central States of Brazil" by Dr. Cardwell-Quinn, was read by title only.

This was followed by a very interesting contribution by Mr. Charles P. Fox, of Akron, Ohio, on "Possible Rubber Producers in the Temperate Zone," in which the author showed that there were several plants at our disposal in this climate, which would be of commercial importance for the production of rubber, if the cost of production could be reduced sufficiently.

This paper was followed by an essay on "Some Effects of Acclimatization upon Guayule" by Mr. Francis E. Lloyd, Professor of Botany at McGill University, Montreal, Canada (read by title only).

Mr. Frederic C. Hood in discussing Mr. Stedman's paper called attention to the fact that we are at present comparatively ignorant of the exact definitions for most of the commercial varieties of crude rubber. Terms such as "Hard Para," "Up-River Fine," "Weak Fine" and the like are used in such a loose manner at the present day that the manufacturer is handicapped both in the purchase and in the use of these rubbers. On his motion, the question of "The Commercial Nomenclature of Crude Rubber Varieties" was referred to a committee of four, appointed by the president of the Conference.

At the suggestion of the president, it was agreed that the matter should be presented at the meeting of the Executive Committee of the Rubber Club of America, Tuesday night, September 24. As a result of this motion, the following members were appointed by the Rubber Conference:

Mr. Cyril Baxendale, Federated Malay States; Dr. Jacques Huber, State of Para, Brazil; Mr. Leonard Wray, Straits Settlements; Mr. F. Crosbie-Roles, Island of Ceylon; Mr. Noel Trotter, London and Federated Malay States.

The following members were appointed by the Rubber Club of America:

Mr. Albert Zeiss, Arnold & Zeiss, New York; Mr. Arthur W. Stedman, New York Commercial Co., New York; Mr. Wm. J. Bass, General Rubber Co., New York and Sumatra; Mr. Henry C. Pearson, THE INDIA RUBBER WORLD, New York.

These committees were appointed with instructions to present a preliminary report of their deliberations at the final meeting of the Conference, Saturday morning, September 28.

Note: The sessions of the "Nomenclature Committee" were continued daily during the week beginning Monday, September 30, 1912.

MORNING SESSION, WEDNESDAY, SEPTEMBER 25.

The first session of Wednesday opened at 10 A. M. with a paper on "The Present and Future of the Para Rubber Industry" by Dr. Jacques Huber, Director of the Goeldi Museum and Botanical Gardens at Para, Brazil. The paper called forth a very lively discussion from the manufacturers. Among the questions brought out were: "What is the cost per pound of gathering Up-River Fine Para and delivering it in the city of

Para?" and "What appears to be the difference between the acid coagulation and the smoking process?" Dr. Huber explained this point by stating that the smoke of the urucuri nuts probably contained certain chemical products which had a beneficial influence on the gum during the process of conversion. Any laboratory preparation used for coagulation should in his opinion be thoroughly tried out before it is finally adopted. Dr. Dannerth called attention to the fact that the smoke used in Para apparently contained volatile gases and liquids of low-boiling point. In that case a careful examination of the distillate would have to be carried out, in order to determine the constituents of the smoke.

The opening paper was followed by one on "Problems in Vacuum Drying" by Mr. J. P. Devine, which developed considerable discussion and brought out such questions as "Can rubber be taken direct from the dryer and put on the mixing rolls, for the purpose of increasing the efficiency of the plant?" and "Why is it that certain rubbers which have been dried in vacuum appear tacky after removal from the apparatus?"

The paper by Mr. T. W. Miller, manufacturer of dipped goods, was omitted, in the absence of the author.

Mr. P. L. Wormeley, of the Bureau of Standards, Washington, D. C., delivered a most enlightening address on "Physical Methods of Testing Rubber and Rubber Products." The paper showed that the National Bureau at Washington is at present exerting itself to a considerable degree in devising standard methods for physical and chemical testing of rubber products.

One of the questions brought out at this meeting was that by Dr. Dannerth—"What is the allowable variation in the tensile strength test on crude rubber?" In other words, "How close is it possible to make two results agree, provided the samples have been cured and cut from the same compound?"

EVENING SESSION, WEDNESDAY, SEPTEMBER 25.

On Wednesday evening, at 8 o'clock, a special meeting of the Conference was held to hear the papers on "Factory Management and Organization Methods" by Mr. J. C. Jurgensen and Dr. Frederic Dannerth, in which a plan was proposed for the systematization of laboratory work in rubber factories.

These papers were followed by one on "A Method of Determining the Density of Vulcanized Rubber Goods" by Mr. B. Denver Coppage, of Wilmington, Delaware, in which he demonstrated an instrument which was devised primarily for determining the plasticity of rubber-covered rolls for paper manufacturers. He has given this instrument the name of "Plastometer."

These papers started a very lively discussion by Messrs. Stone, Baxendale and Saunders. The meeting adjourned at 10 o'clock.

MORNING SESSION, THURSDAY, SEPTEMBER 26.

The Thursday morning session opened at ten o'clock with a paper by Mr. E. A. Barrier, of Boston, on "A Brief History of Fire Hose Specifications in the United States," in which he outlined the present status of the specifications issued by the two principal underwriters' laboratories. Mr. Pearson drew attention to the wisdom of the recent action of the Isthmian Canal Commission in eliminating from its specifications the phrase "Approved by the National Board of Fire Underwriters."

The second paper of the morning was by Dr. Lothar Weber, of Boston, Massachusetts, on "The Commercial Possibilities of Synthetic Rubber." In the discussion which followed, many interesting questions were asked by Messrs. Boggs, Driscoll, Crosbie-Roles, Smythe and Saunders, as well as by Dr. Huber and Mr. Fol of the Government Rubber Testing Station at Delft, Holland. Mr. Weber showed in the course of his remarks that the production of synthetic rubber at this time is handicapped by the fact that it is difficult to control the process of polymerization.

The statement made by one gentleman from London that automobile tires made of synthetic rubber would cost £1,000 or more was contradicted by Prof. Hinrichsen of the Royal Testing

Station in Berlin, Germany. He drew attention to the fact that a certain large German chemical works is now producing synthetic rubber at a cost slightly above that of Hard Fine Para.

AFTERNOON SESSION, THURSDAY, SEPTEMBER 26.

Thursday afternoon, the Conference convened at two o'clock, with an attendance of about 110. This session was attended by a large number of railroad chemists and testing engineers. Fifteen of the principal railroads of the United States had sent delegates to the Conference, in order to hear the views of the manufacturers on such vital topics as "Air Brake Hose and Steam Hose." The discussion was led by Mr. C. D. Young of the Pennsylvania Railroad, presenting the case of air brake hose from the standpoint of the consumer in a concise manner. He called attention to the fact, in the course of a long paper presented by him, that the quality of air brake hose had deteriorated approximately seven years ago, and showed that train detentions on account of defective hose are more frequent in summer than in winter on railway lines in the United States. In continuing his remarks, he called the attention of the manufacturers to the fact that 82 per cent. of the air brake hose of the present day showed the defect of "porosity." His examination extended over 5,800 pieces of air brake hose. Other representatives brought out many facts, showing this decline in the quality of the product to be a matter frequently observed in various sections of the country. Chemists and engineers representing the manufacturing interests felt disinclined to discuss with the consumers this most important question. Mr. E. A. Barrier of the Factory Mutual Laboratories, Boston, called attention to the fact that after all it might be that the Master Car Builders' specifications were incomplete and not properly protecting the interests of the consumer.

Among the railroads represented were: The New York Central, Pennsylvania, Philadelphia & Reading, Illinois Central, Lake Shore & Michigan Central, Norfolk & Western, Lackawanna, Erie, Chicago & Northwestern, Atchison, Topeka & Santa Fe and Canadian Pacific; in addition to many other of the prominent trunk lines.

MORNING SESSION, FRIDAY, SEPTEMBER 27.

The Friday morning session opened at ten o'clock with a paper by Mr. E. S. Land, which was a report of the Navy Conference held in Washington in December, 1911. This conference was attended by 40 representatives of rubber manufacturers in the United States, and was called for the purpose of discussing the specifications at present in use by the Navy Department. The paper called forth considerable discussion on the part of Messrs. Boggs, Hinrichsen, Barrier, Cutler, Smith, Geer, Driscoll, Weber and Stone.

Mr. E. B. Tilt (Montreal) presented the report of the Rubber Committee of the American Society for Testing Materials and stated that the committee had been at work on a definite plan since February, 1912. The questions taken up will bear on the quality of manufactured rubber goods chiefly from an engineering standpoint.

This report was followed by official reports from the several rubber sections and committees now at work in the United States on standard specifications for rubber goods, and standard methods of rubber goods analysis.

Mr. W. A. Delmar (New York) presented a preliminary report of the activity of the Railroad Committee. This committee, composed of men representing railroads, United States Government departments and the manufacturers of insulated wire, has been at work since 1911 devising accurate methods of chemical analysis for rubber-covered wires.

Mr. D. A. Cutler, chairman of the Rubber Section of the American Chemical Society, presented to the Conference an outline of the work which is contemplated by that Section. He stated that steps had already been taken to determine the ac-

curacy of certain analytical methods used in the examination of rubber goods.

Attendance at this morning session reached 200 and the interest in the meeting was very keen, as was shown by the fact that most of those present remained to the close.

AFTERNOON SESSION, FRIDAY, SEPTEMBER 27.

The meeting was well attended. Mr. Loudenbeck presented the following motion: That the secretary be instructed to preserve the records of this Conference, publish the papers and minutes, and notify the members of this Conference when these are ready for distribution or sale.

The topic "Standard Methods for Testing Textile Materials Used in Rubber Manufacture" was then called up for discussion.

time had cost, but, inasmuch as a half ton of it had been made at the Elberfeld factory, it was fairly obvious that it could not have cost a thousand dollars a pound.

Dr. Weber, in presenting the subject of government specifications, said that the manufacturer is at present seriously handicapped when delivering goods to the government on specifications. It has been the policy, up to the present, to reject goods on the strength of certain analyses, and at the same time the government chemists who have made these analyses have omitted to publish their methods of testing. This, he thought, was a very undesirable state of affairs, and requires early attention and serious consideration. He presented this resolution: "It is the opinion of this Conference that all specifications should



DR. FREDERIC DANNERTH.



HENRY C. PEARSON.



DR. JACQUES HUBER.

Little interest in this subject was manifested by those present so that the regular business was proceeded with.

The paper of the afternoon was by Mr. A. O. Bourn, of Providence, R. I., entitled "A New Theory of Vulcanization." Owing to the absence of the author of the paper, it was impossible for the members present to put directly the questions bearing on it.

MORNING SESSION, SATURDAY, SEPTEMBER 28.

The Saturday morning session opened at ten o'clock.

The chairman announced that the International Rubber Banquet was planned for the evening of Wednesday, October 2, at the Hotel Plaza. He also announced that the initial meeting of the Nomenclature Committee had been held in the main hall reception room on the afternoon of the previous Thursday. (This meeting was followed by a full meeting on Monday afternoon, September 30.) In this committee Mr. Baxendale had consented to develop a glossary of terms for the plantation rubbers, while Dr. Huber had been entrusted with a similar duty on the wild rubbers of Brazil.

The chairman stated that he had been requested by Dr. Weber to make an official denial of the statement, which a daily paper had attributed to him, to the effect that synthetic rubber cost a thousand dollars a pound. He went on to say that an American reporter is expected by his city editor to turn in interesting matter, and that he is for that reason constantly under the temptation of making his copy interesting rather than accurate. Dr. Weber added that he would communicate with the paper that attributed this statement to him and ask it to publish a contradiction. He went on to observe that it would be quite impossible to tell what synthetic rubber up to the present

include complete descriptions of the methods of physical testing and chemical analysis, to which materials delivered on any particular specification will be subjected."

In explanation of his motion, Dr. Weber added that the Brooklyn Navy Yard had at various times rejected materials, as a result of analyses and analytical methods which are unknown to the general public.

Mr. Rodman advised Dr. Weber of the fact that the Railroad Committee on Standard Methods of Analysis would have its report ready in two or three months. He said that we should not confuse the Bureau of Standards with the Chemical Laboratory of the Navy Department, as the methods issued by the former are official, while those issued by the latter are the private methods of a consulting chemist who happens to be in the employ of the government.

Mr. Cottle stated that the American Chemical Society is now engaged on the preparation of standard methods, and that related work in the same field is being carried on by the Railroad Committee. He felt assured that these methods would be presented to the United States Government departments for their approval, and that the ability and standing of the men who have prepared these methods would insure for them serious consideration. It was inadvisable, in his opinion, at this time to publish methods of analysis, which would in any case have to be revised very shortly. This had been observed in the case of the methods published by the Bureau of Standards, which had to be revised shortly after they were published.

Prof. Hinrichsen said that the Royal Testing Station at Berlin at one time experienced difficulties similar to those recited by Dr. Weber. He stated, on this point, that the policy of the

German Government was to publish the methods which were used for analysis of specification material, at any particular date, in order to insure the co-operation of the manufacturer, and thus make possible a more rational examination of the goods than would otherwise be possible. He believed it to be a very simple matter to inform the manufacturer by mail, if need be, when a new and better method of analysis was discovered.

Mr. Earl presented a resolution, that THE INDIA RUBBER WORLD be designated as a means of intercommunication among the members of this Conference. This resolution was unanimously adopted.

Dr. Dannerth offered a resolution, that the present form of Conference Committee and Officers be continued as a means

Pearson, who, by reason of his thorough and intimate knowledge of the whole rubber world, and his conspicuous ability as a presiding officer, had directed the sessions of the Conference so smoothly and so successfully. This vote was also unanimously carried.

Mr. Van Derbeck referred to the fact that the producers, manufacturers and consumers of rubber goods had on no previous occasion been so successfully brought together. He moved a vote of thanks to Dr. Dannerth, the honorary secretary, for the efficiency with which he had served the Conference.

This vote was unanimously carried, whereupon the Conference adjourned *sine die*.

The following gentlemen were invited by the president to serve



CYRIL E. S. BAXENDALE.



RICHARD B. EARLE.



DR. LOTHAR E. WEBER.

of intercommunication among the members of this Conference until the next Conference shall convene. This resolution was also unanimously adopted.

It was announced that THE INDIA RUBBER WORLD planned to publish in full the papers that had been read before the Conference.

Dr. Weber's suggestion that the U. S. Government be called upon to state its methods of analysis in all government specifications, was discussed by many members of the Conference; and while it was the consensus of opinion that the manufacturer was entitled to know to what tests his goods would be put, under government specifications, it was the general view that inasmuch as this was an international conference, it could not with propriety submit any request or memorial to the United States or any other government.

Mr. Pearson paid a tribute to the organizer of the Exposition, speaking as follows: "The exposition to which our friend Mr. Manders has invited us is most unique. He has brought to us commissioners and exhibits from the far-away countries of Brazil, the Island of Ceylon and the Federated Malay States. Mr. Manders and Miss Fulton have rendered us an inestimable service. It was they who originated the idea of a Rubber Conference, and an expression of appreciation is assuredly due them."

Mr. Wood of the New York Commercial Co. made the following motion: "Be it moved that a vote of thanks be extended the able organizer of this exposition and his niece, Miss Fulton, the secretary of the exposition, and that a copy of this resolution be engrossed and presented to Mr. Manders and Miss Fulton." The vote was carried unanimously.

Dr. Huber moved a vote of thanks to the chairman, Mr.

as honorary chairmen at the several sessions: Mr. G. Stone, Dr. Jacques Huber, Mr. C. R. Boggs, Mr. D. A. Cutler and Dr. Frederic Dannerth.

THE AFTER-EXHIBITION SUPPERS.

At the end of each day a supper was held in the Palace restaurant, attended by the exhibitors and their friends. These occasions were for the most part quite informal. At the opening supper on Monday night, September 23d, there were several speakers, among them, Mr. Salmon, Commissioner from the Imperial Institute of England, Dr. Dahne and Mr. Algot Lange, the explorer of the Amazon—a particularly delightful feature of the initial supper being the German student songs, contributed by Dr. Dahne. The suppers held later in the week were equally interesting and all well attended.

A COMMITTEE ON RUBBER NOMENCLATURE.

Early in the sessions of the Rubber Conference a committee was appointed from the members of the Conference to act in conjunction with the committee appointed by the Rubber Club of America to bring about the standardization of the nomenclature of crude rubber. The chairman of the committee was Henry C. Pearson and the three members from the rubber club were A. Zeiss, A. W. Stedman and W. F. Bass. The members appointed from the conference were, in addition to the chairman, C. E. S. Baxendale, from Federated Malay States; Leonard Wray, from British Malaya and Straits Settlements; F. Crosbie Roles, from Ceylon; Noel Trotter, from London; Dr. Jacques Huber, from Pará; Dr. J. de Argollo, from Bahia; and W. A. Anderson, from the Hawaiian Islands.

NEW YORK ELECTRICAL EXPOSITION AND AUTOMOBILE SHOW.

THE increased application of electricity to all branches of industry is exemplified in the development of the annual Electrical Show. Started in the year 1907, it is now regarded as a yearly event of importance, bringing under one roof exhibits illustrating the varied applications of electricity to modern life and industry.

Lasting from October 9 to 19, the time of its duration, permitted all those interested to visit it and study its features, either from an industrial or a domestic point of view. Its removal from its original home at Madison Square Garden to the more commodious premises at the Grand Central Palace, has proved a marked success, both as to participation and attendance.

One of the features of the development which the change in location has permitted is the display of automobiles and motor trucks. To accommodate this section, a demonstration track had been arranged on the third floor, permitting manufacturers to make indoor demonstrations of the merits of electric vehicles and trucks. Among the former were the exhibits of the Anderson Motor Car Co., the S. R. Bailey Co., Buffalo Electric Vehicle Co. and the Studebaker Corporation.

Special prominence was given to commercial and industrial electric trucks, in which field electricity is making rapid strides, to the advantage of the rubber tire industry. Various sizes and models were displayed by the Studebaker Corporation, the Atlantic Vehicle Co., the Champion Electric Vehicle Co., the Lansden Co., the Ward Motor Vehicle Co., and the General Motors Truck Co. The facility of being able to demonstrate them indoors gives electric vehicles an advantage not enjoyed by those using gasoline.

In connection with automobile accessories, interest had been manifested in the announcement by the Westinghouse Electric and Manufacturing Co. of a tire vulcanizer, which would greatly simplify the problem of repairing tires. The model, however, had not arrived by the close of the exposition.

The government exhibits were varied and included those of the Department of Agriculture, the Department of Commerce and Labor, the Department of the Interior, the United States Navy and the War Department. The first-named department illustrated the stimulation of plant growth by electricity, while the application of electricity to cultivation on a more extensive scale was demonstrated by the produce of the electrified farm exhibited by Dr. Emilio Olson. These two exhibits were of special interest by reason of the possible application of electricity to the germination of seedlings and the cultivation of rubber trees.

Wireless outfits and signalling apparatus were displayed by the Navy Department, but particular interest attached, from a rubber point of view, to the model harbor built by the Government for the Alaska-Yukon-Pacific Exposition at a cost of \$35,000 and operated by representatives of the United States Coast Defense. The harbor showed in miniature form the mines and batteries used for purposes of protection, in the manner explained in the October, 1912, issue of *THE INDIA RUBBER WORLD*, page 16. Miniatures of the cables used for transmitting the electric current were exhibited and explained by the attendants. They consisted of three copper wire strands covered with rubber, enclosed in rubber tubing, the whole constituting in miniature a section of a cable. From time to time electric current was sent through the cables, the ignition of a red light taking the place of an explosion.

Models of the Gatun Dam of the Panama Canal, and of one of the locks and the movable dam on the Mohawk River at Yosts formed interesting features.

The Habirshaw Wire Co. exhibited samples of their insulated wires and cables, showing their various qualities made in accordance with official requirements.

A distinctively rubber exhibit was that of the Canton Rubber Co., of Canton, Ohio, which appealed to most visitors. It consisted of seamless fine Pará rubber gloves and mittens, specially intended for electricians, to whom they are a vital necessity. They are of standard quality for 4,000 volts, and of heavy make for 10,000 volts. One pair was shown which had withstood as high as 23,000 volts. In addition to those for electricians, gloves for acid workers, tanners and similar operatives were also shown. Household gloves, finger cots, special rubber goods and druggists' sundries also formed part of the line.

The H. W. Johns-Manville Co. made a strong exhibit of asbestos roofing and waterproofing, making a special feature of their "Regal Roofing" of natural asphalt. Friction tapes and splicing compounds formed part of their full line of electrical supplies. Refrigerating machinery was a prominent feature of the exhibit, as well as "Transite" asbestos wood and other asbestos compounds.

One of the most interesting specialties was the "Acousticon," or electrical aid to hearing, which is largely composed of hard rubber. Besides facilitating ordinary conversation, it has an ear-piece which, in conjunction with an "Acousticon" connection, enables deaf persons to hear and thus attend church or the theater with the same comfort as if their hearing were normal. It is made by the General Acoustic Co., of Jamaica, Long Island.

The prominent companies identified with electric light and power were fully represented, such as the General Electric Co., the Westinghouse Electric and Manufacturing Co., the New York Edison Co., the United Electric Light & Power Co., the Edison Electric Illuminating Co., of Brooklyn; the Electric Lamp Association, the Yonkers Electric Light & Power Co., the Wagner Electric Manufacturing Co., and others.

Office appliances and labor-saving household devices were largely represented, the object of most of the exhibits being practical utility, and that end having been fully accomplished.

Among other interesting exhibits was that of the Dodge & Zuill Manufacturing Co., of Syracuse—the "Easy" Motor Washer—with a wringer composed of rubber rolls. The combination of the two appliances economizes time and labor.

The exhibits of electric accessories were typical in character and marked various interesting stages in the progress of electrical science.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha from the United States for the month of July, 1912, and for the first seven months of five calendar years:

MONTHS.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
July, 1912.....	\$225,102	\$141,583	\$741,902	\$1,108,587
January-June	1,156,546	512,881	3,850,713	5,520,140
Total, 1912.....	\$1,381,648	\$654,464	\$4,592,615	\$6,628,727
Total, 1911.....	1,290,415	927,644	4,162,495	6,380,554
Total, 1910.....	1,218,628	1,013,834	3,273,268	5,505,730
Total, 1909.....	996,859	637,090	2,393,563	4,027,512
Total, 1908.....	714,125	656,333	2,120,145	3,490,603

The above heading, "All Other Rubber," for the month of July, 1912, and the first seven months of the two calendar years, includes the following details relating to Tires:

MONTHS.	For Automobiles.	All Other.	TOTAL.
July, 1912.....	values \$297,340	\$54,326	\$351,666
January-June	1,537,705	292,178	1,829,883
Total, 1912.....	\$1,835,045	\$346,504	\$2,181,549
Total, 1911.....	1,464,060	337,130	1,801,190

THE RUBBER TRADE IN AKRON.

By Our Regular Correspondent.

W. W. WUCHTER has resigned as general manager of the Swinehart Tire and Rubber Co. and John Walsh has been elected to fill that position. The new board of directors consists of Joseph Dangel, John Walsh, R. A. May, T. E. Burton, Oliver Tomey, William McWeldon, A. C. Hoff, A. Polksky, and Dr. E. L. Mather. The new board of directors authorized the sale of \$150,000 worth of treasury stock at par. C. O. Baughman was re-elected secretary and R. A. May, treasurer. J. W. Cully, of the New York branch, was given charge of the Detroit branch. A. T. Carnahan has been appointed district manager in charge of Ohio, West Virginia, Kentucky, western New York, western Pennsylvania and eastern Michigan.

* * *

The Marathon Tire and Rubber Co., organized for the manufacture of tires and a general line of rubber goods, have secured land at Cuyahoga Falls, Ohio, just below the Glen Bridge, and are constructing their first building 65 x 300 feet. They expect to commence operations before the first of the year. The men interested in this company are experienced in rubber manufacturing. The board of directors consists of I. Walter Jenks, of Pittsburgh; John R. Scott, of Cleveland; C. W. Vaughn, a manufacturer of Cuyahoga Falls; W. F. Ridge, of Akron, and W. H. Jenks, of Akron. The officers of the company are John R. Scott, president; W. F. Ridge, vice-president and general manager; W. H. Jenks, secretary and treasurer. W. H. Jenks has been connected for five years with the engineering department of the Firestone Tire and Rubber Co., and W. F. Ridge has also had seven years' experience in the pneumatic department of the Firestone company. Franklin Kesser, formerly with the Hartford Rubber Works Co., and later with the Firestone, is manager of the sales department of the new company.

* * *

The B. F. Goodrich Co. have just completed a new route book covering the entire State of Michigan. This has been made from original data, the amount of which is voluminous. It develops the fact that many parts of the State are almost impassable, owing to the bad-road conditions.

F. H. Mason, first vice-president of The B. F. Goodrich Co., who has made the Akron boys and girls happy by donating parks and playgrounds, has come forward with another fine gift. He has given to the Akron Public Library \$2,000, to be used in purchasing books for the school children. The library board will at once equip a room for that purpose. Certainly Akron should appreciate the generous spirit of its many rubber manufacturers.

* * *

The Goodyear Tire and Rubber Co. has opened 16 new branches in the past 12 months. They are located at Albany, Rochester and Syracuse, New York; Dayton, Ohio; Kansas City, Missouri; Denver, Colorado; Newark, New Jersey; Oakland, California; Omaha, Nebraska; Portland, Maine; Rochester, New York; St. Paul, Minnesota; Spokane, Washington; Salt Lake City, Utah; Syracuse, New York; Worcester, Massachusetts, and Mexico City, Mexico. The company has erected several new buildings in the larger cities to accommodate the increased demand for their products. It is their plan to own all their branch buildings throughout the country. The new Goodyear buildings have been erected in Grand Rapids, New York, Buffalo, Columbus, Birmingham, Kansas City, Louisville, Minneapolis, Memphis, Newark and Philadelphia. The company has 11 branches in Canada, 55 in the United States, and with a new field being opened in foreign countries.

* * *

The Summit Rubber Co., which was destroyed by fire March 28, 1911, has been rebuilt and has commenced work. The force numbers about 100, including men and women. The company

at present owns two acres of land and anticipates building another addition next summer. The plant is now located between Akron and Barberton, and has three railroad lines on one side and a street car line on the other. This is an independent company and manufactures rubber sundries. The officials claim that they have a large number of orders, which will insure their running for some time without any further orders.

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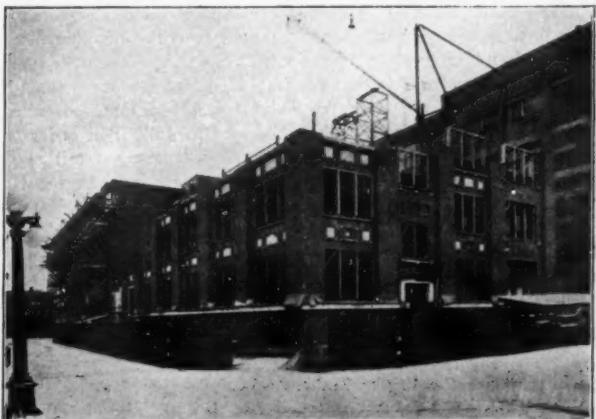
Recent additions to the B. F. Goodrich Co.'s plant at Akron, Ohio, do not appear to indicate any anxiety on their part as to



NEW ADDITION TO THE B. F. GOODRICH FACTORY.

the future of the rubber industry. Although their present floor space is between sixty and seventy acres, this is at the present moment being augmented by the new building here illustrated. This structure of six stories and basement is 270 feet long by 157 feet wide. It is of the most modern fireproof construction, the materials used being solely steel, concrete and brick.

The office staff is growing with the growth of the factory, and a new six-story office building is also in course of construction. These illustrations show the buildings in process of erection, while it is stated that, owing to the rapid growth in the demand



NEW OFFICE BUILDING OF THE B. F. GOODRICH CO.

for Goodrich Wireless and other truck tires, the capacity of that portion of the factory will shortly be almost trebled. In the course of the past five or six years, practically the whole of the plant has been made over, the present buildings being uniform in design, and of modern fireproof construction, with exceptional facilities for lighting and ventilation.

* * *

The various Akron rubber companies are putting forth a

special effort to supply their help with the best of drinking water, and careful chemical and bacteriological tests are made from time to time to assure the companies that the drinking water is safe and healthful.

* * *

Mr. J. A. Ford, of the Cleveland Mechanical Rubber Co., has resigned his position to join the force of the Goodyear Co., of Akron, where he has accepted a position in the experimental department in connection with mechanical goods. Mr. Ford also had several years' experience with the Morgan & Wright Co.

* * *

The Swinehart Tire and Rubber Co., of Akron, are sending out an official denial of the report that they are going to build a factory at St. Louis. "I have heard that a new rubber company was going to build in St. Louis," says C. A. Swinehart, the sales manager, "but it has no connection whatever with this concern."

THE RUBBER TRADE IN BOSTON.

By a Resident Correspondent

BUSINESS in the various lines continues much the same as was reported last month. The clothing manufacturers are rushed with orders, and although the salesmen are on the road, they are refusing to guarantee deliveries except subject to delay. The call for plain coated rubber coats is not so marked as for the finer mackintosh and craventted goods; and these are in many cases delayed because of the unusually heavy demand upon the textile mills for the cloth, the run on some patterns and colors being remarkable. Belting and packing lines are none too brisk at present, the tendency today being to allow the manufacturers to carry stock, rather than to purchase heavily and carry large quantities in the stock-rooms of the mills and factories. Hose is called for only to a limited extent, the municipal contracts being mainly let in the spring, while the garden hose demand, of course, is over, as far as consumers' trade is concerned, though dealers are already placing fairly large contracts for early 1913 delivery. Druggists' goods in soft and hard rubber are in normal call. Tire manufacturers are busy. The steady increase in the use of automobiles, and the lengthening of the season—if, indeed, there can be called a season today—makes the demand for tires strong, both for immediate delivery and on early spring contracts.

Footwear trade, as is to be expected, is not very brisk, though there is more doing than the manufacturers anticipated, after the heavy advance orders taken previous to July 1, in order to secure the extra discount. It appears that many retail shoe merchants preferred to hold back more or less of their regular orders in order to be certain of the trend of style of leather footwear, and this now being established, they are ordering suitable rubbers to fit these lines. The tennis shoe business is excellent, and already advance orders for next season's delivery are far ahead of a year ago. Taken altogether, the rubber industry is in fine condition in New England.

* * *

Last month the city of Malden was the scene of a trade carnival, when the local industries vied with each other in educating citizens and visitors as to the importance and extent of the manufactures of the city. Among those which made interesting exhibits were at least three, well known in the rubber trade.

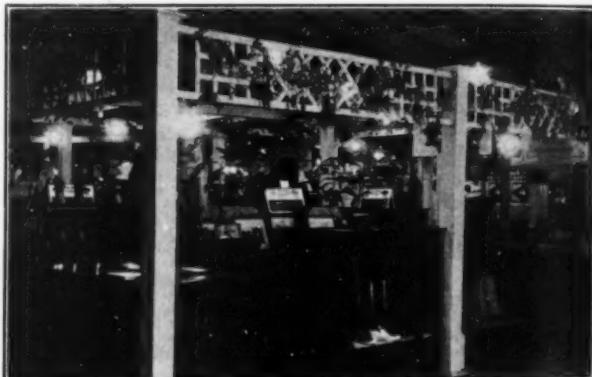
The John H. Parker Co. exhibited the celebrated leather-soled rubber boots which have made the late Mr. Parker's name famous, and also Parker's Arctic Socks, which are sold by many dealers in rubber footwear. Mr. Charles Parker's little eight-year-old daughter, Elinor, had the proudest moment of her young life, when she presented to President Taft a pair of Arctic Socks, and was rewarded by one of that gentleman's

most expansive smiles as he thanked her, and complimented her on her beautiful blue eyes.

The Converse Rubber Shoe Co. had a working exhibit, a rubber shoe maker being at work; and there was also shown the process of making the Converse Automobile Tires, a branch of manufacture recently added by this company.

By far the most interesting exhibit was that of the Boston Rubber Shoe Co., whose booth was a continuous centre of attraction throughout the entire week. A most ornamental structure was erected, in which were large, deep show cases, in which were displayed a full line of the many kinds of rubber footwear made by the company. Interspersed among the standard samples were shown pairs of shoes made of fancy colored rubber, many novel effects being produced. Perhaps the freakiest of these were rubbers made of mottled colors, so mixed as to resemble the "marbling" of bookbinders' lining papers. The rubber of various colors was so blended and mixed that though each was of a different composition from every other, the mixing in no way interfered with a perfect composition, or with the subsequent vulcanization, and the result was as interesting from the standpoint of the rubber chemist or manufacturer, as the shoes were to the general observer as a footwear novelty.

But that was by no means all that was interesting. At one corner a man made Boston boots, and at another a girl made "Hub-Mark" rubbers. In one case were three or four pairs of



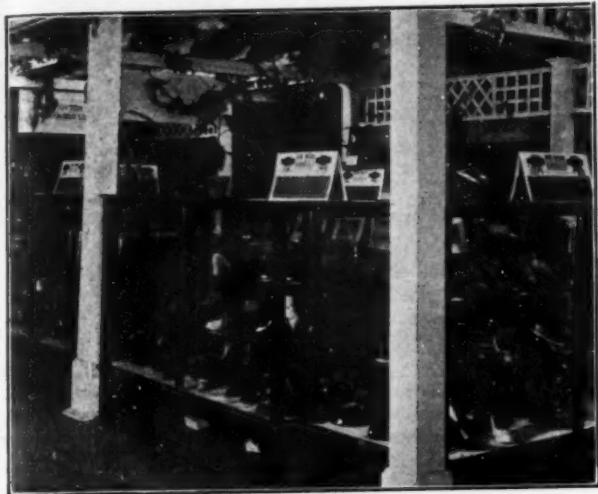
PRESIDENT'S BOOTS IN THE CENTER CASE.

hip boots. One of these pairs was a special one, made to measure for a gift to President Taft. This case, while shown in the illustration, was not sufficiently illuminated for THE INDIA RUBBER WORLD photographer to secure more than a faint outline of this pair of boots in the picture here presented.

Besides these, a table in the centre of the booth held a large number of curios collected by the company in its many years of purchasing crude rubber. There were specimens of gum, samples of Indian rubber working tools, including those for tapping and smoking. There were also a number of the crude rubber shoes made by the Amazonian natives, many covered with quaint barbaric ornamentation. Perhaps the greatest of all these curiosities was a human head, preserved after the fashion of the ancient Peruvian aborigines, who thus recorded their triumph over an enemy by showing his head as proof. The skull is removed, the eyes, nasal cavity and ears stopped up, the lips sewed together with coarse thread which is left with many long hanging ends. Then the head is immersed in and also filled with a strong tanning solution which not only turns it into a tough black leather, but, while retaining its shape, causes the head to contract until it is reduced to the size of a man's fist. In this condition it is as black as tar and as tough

and unyielding as bone. The specimen shown is supposed to be several hundred years old.

The company distributed several kinds of souvenirs to visi-



BOSTON RUBBER SHOE CO. EXHIBIT AT MALDEN FAIR.

tors, among them being blotters and other advertising matter, miniature boots and rubbers, and pins bearing the trade mark of the company.

* * *

Francis H. Appleton, the popular head of the rubber reclaiming house bearing his name, has been signally honored by being elected president of the Perkins Institution and Massachusetts School for the Blind, at its meeting early last month. This institution is famous the world over for its wonderful success in its systematic education of the blind. It was founded in 1829 by Dr. Samuel G. Howe, beginning with six blind children who were taught in his father's house. It is named in honor of Colonel Thomas H. Perkins, one of the institution's most generous friends, who gave his mansion-house on Pearl street for its use. It was the first institution of its kind in the world, and has always served as a model for others of its class in America and Europe. The first books for the blind printed in this country were set up, electrotyped and printed here. For many years it occupied a commanding site in South Boston, but has now removed to a beautiful spot in Watertown, where a series of handsome buildings has been erected, and where for the first time the annual meeting was held, October 9, when Mr. Appleton was elected president, and Francis H. Appleton, Jr., an auditor.

* * *

Another philanthropic institution owes its establishment to one of the members of the rubber industry, Abraham Sydeman, president of the Plymouth Rubber Co., after learning of the difficulties encountered by able but impecunious men to secure even limited capital, and the reluctance of banks to assist such ambitious men, together with the greed and usurious practice of loan sharks, conceived the idea of forming a philanthropic credit union to aid small business men of limited financial means, by loaning money at very low interest, 1 or 2 per cent., instead of the 30 or 50 per cent. demanded by loan sharks.

Mr. Sydeman detailed his plan to several prominent business men, and the result was the incorporation in this city of the Boston Credit Union, which will probably have its plans perfected and be doing business by the time this journal is in the hands of its readers. The incorporators include: Edward A.

Filene, whose magnificent new store, opened in September, is one of the show places of Boston; David A. Ellis, chairman of the Boston School Committee; Max Mitchell, vice-president of a leading trust company; importers, manufacturers and merchants; a Hebrew rabbi and a prominent attorney. They intend to raise a permanent fund of \$100,000 to \$200,000 from which loans will be made. It was Mr. Sydeman's idea that the institution might loan without interest, but as the stability of the capital was an important consideration, on legal advice it was decided to charge a small interest to cover costs of clerical force, rent and running expenses. When the union is solidly established, however, Mr. Sydeman hopes to reduce the interest rate to 1 per cent., thus doing far better for the small business man than any other credit union, most of which charge 10 and 12 per cent., and none less than 8 per cent. This union, founded strictly on a philanthropic basis by wealthy men, can, of course, greatly reduce these current rates.

* * *

The Walpole Rubber Co. has for years been a Maine corporation, its charter having been granted in that State under its corporation laws. Last month a new corporation was formed, under the laws of Massachusetts, entitled the Walpole Tire and Rubber Co., its purpose being to acquire the good will, rights, property and assets of the former company. The new company is capitalized at \$4,500,000, of which \$3,000,000 is 7 per cent. cumulative preferred stock, and \$1,500,000 common stock. The preferred stock has no voting power, and is retriable at the option of the directors, at \$120 per share and accrued dividends after five years from date of issue, in lots of \$50,000 at a time.

The incorporators of the Walpole Tire and Rubber Co. are: E. W. Tinkham, Harrisville, Rhode Island; A. T. Baldwin, E. C. Green and J. C. Blanchard, Jr., Boston; F. J. Gleason, Walpole; E. W. Furbush and L. O. Duclos, Roxbury.

* * *

A. S. Foster, of Lamkin & Foster, an authority on rubber footwear styles, submitted to a severe operation early last month, and at present writing is convalescing in a most satisfactory manner at the Corey Hill Hospital.

* * *

It may interest our readers to learn that the heaviest individual tax paid in the city of Beverly is that of Mrs. R. D. Evans, widow of the late rubber magnate. Her property in that city is assessed at over \$5,000,000, and her tax \$76,319. Beverly now rivals Lenox as a summer residence for millionaires, and has grown rapidly in popularity since President Taft chose to make it his hot-season residence, and for some years he rented Mrs. Evans' "palace" there.

* * *

The B. & R. Rubber Company of North Brookfield is advertising in the Boston papers for a sales and department manager. The company is doing a steadily increasing business in its specialties.

* * *

The new plant of the Plymouth Rubber Co. at Canton, Mass., is already too small to accommodate the constantly increasing business of this wide-awake concern, and plans are being prepared for the erection of an additional building.

THE RUBBER TRADE IN CINCINNATI.

By a Resident Correspondent.

In all branches of the rubber trade in this city there is heard the hum of prosperity. This briefly tells the condition of the trade locally despite the fact that this is presidential year, when usually the business outlook is discouraging, especially during the last stages of the campaign.

From the Cincinnati Rubber Co. comes the statement that business is very good and the outlook is bright.

W. G. Brown, of W. G. Brown & Co., crude rubber brokers in the Provident Savings Bank building, said: "The rubber business is flourishing, and the outlook is the best in years. There is a heavy demand for crude rubber at this time for hose, belt, packing, tires and other purposes."

* * *

To acquaint and interest Cincinnati capital in the possibilities of Mexico as a rubber growing country is one of the principal objects of the establishment in this city of a Mexican consulate. Enrique Ornelas has been sent to this city by the Mexican government to make a study of American industries, and at the same time interest Americans in the possibilities of his country. It is more than likely that within a short time there will be organized here a company that will operate an extensive rubber plantation in Mexico.

* * *

Setting out with the aim of answering satisfactorily the annoying "tire question," the Ideal Steel Wheel Co. has located a factory in this city under auspices most promising. Its chief product is to be the Ideal Steel Wheel, which they describe as "stronger than a wooden wheel, more easily cleaned, and with sufficient resiliency in itself to make possible the use of a puncture-proof cushion tire, at all speeds, with the same comfort attending a pneumatic tire on a wheel of wood." The officers of the new company are J. B. Fitch, president; J. E. Strietelmeier, vice-president and inventor of the patent; B. L. Mattox, secretary, and E. H. Maffey, treasurer. The capital stock of the company is \$500,000.

* * *

The Diamond Rubber Co. filed petition in the Common Pleas Court in this city September 25 asking for the appointment of a receiver for the Ohio Motor Car Co., of this city, for the benefit of its creditors. The Diamond Rubber Co. claims to be a creditor of the defendant company on a note of \$6,000, which was payable September 15. The Diamond Rubber Co. alleges in its petition that because of irreconcilable differences existing between the officers in active control of the business and some of the stockholders, unless harmony is restored the assets of the company will be wasted and reduced in value to the loss of its creditors. According to the statement of the officers of the company the assets amount to approximately \$404,000, and its liabilities to \$177,000. The Diamond Rubber Co., besides asking for the appointment of a receiver, asks for judgment on its claim of \$6,000. The court appointed Edward G. Schults receiver.

* * *

"I believe I have absolutely the newest system of tire repairing," said F. B. Williams, local agent for the Jackson Motor Car. "One of my men was returning from a trip to the country the other day, and within 20 miles from town had a blow-out in one of his rear tires. He had an extra inner tube, but there was a hole in the casing that he could put his hand through. Unfortunately his tire repair outfit was left behind, and there was not an emergency patch to be had within 20 miles. After some figuring he went to the nearest farm house and secured an old grain sack and a couple of straps from a discarded harness. Pumping up the new inner tube just enough to bring it up to its shape, he tore the grain sack into strips, and wrapped several layers around the tube at the place where the casing was damaged. He then put the tube in the casing, put it on and pumped it up a little harder, wrapping the harness straps around the outside of the tire and between the spokes. The tire was then pumped up to its normal pressure and he went on his way rejoicing."

* * *

Articles of incorporation of the Federal Motor Supply Co. of this city have been filed with the Secretary of State. The capitalization is \$250,000. While the company is authorized to

manufacture and sell automobiles, motor vehicles, motor boats, motor-driven air vessels and the supplies and accessories for the same, one of the principal features of the new concern will be the handling of tires and other rubber accessories. The officers and directors of the new concern are: President, George W. Platt; vice-president, Fred H. Belohs; secretary, Jesse W. Wozencraft; treasurer, Emil G. Schmitt; directors, Edward H. Maffey, William C. Straehley, C. T. Woodrow, J. William Theobold and F. W. Stukenborg. The company's principal retail store and warehouse will be in this city, with branches in a number of other surrounding cities. Executive offices have been opened at No. 506 Fourth National Bank building.

* * *

That rubber clothing is coming to the front as one of the important mercantile lines in the larger cities is evident from the fact that very recently this line of business has grown from a mere side line in the various department stores in this city to a business all by itself. Perhaps no one forecast the possibilities of the rubber clothing business more accurately than did the Schaefer Rubber Co., which is now operating one of the largest retail rubber stores in the Middle West, and has a branch house in Detroit, Michigan. Then followed the Ohio Rubber Co., with a store on Race street, and then came the Goodyear Raincoat Co., of New York, which secured a store room at one of the busiest corners in the downtown district. Recently the London Raincoat Co. opened a branch store here.

* * *

There were few, if any, of the local representatives of the different rubber tire manufacturers who missed the opportunity of attending the first sales convention of automobile dealers and manufacturers which was held in Indianapolis October 8-9. This convention was the founding of what is to be known as the General Sales Convention Association. Perhaps the most important speaker representing the rubber industry at the convention was F. A. Seiberling, president of the Goodyear Tire and Rubber Co., of Akron. In his address to the convention Mr. Seiberling said in part: "I am in charge of the department of visions of my concern and am expected to see ahead, far and away. The total value of automobiles and accessories sold in the United States during the past year summed to the enormous total of \$1,000,000,000, this as a result of a short ten years of activity and growth. But we are just under way and well going, and with better roads at our service and the sequelizing possibility of connecting all cities, towns and villages through the agency of the motor truck I predict that in another ten years the income value of our automobile outputs will exceed that of all the railroads in operation everywhere. Before this can be accomplished, however, the motor car salesman must tone up and become more dignified, while the dealer must lay his mind more acutely on the matter of taking care of the machines he has sold. As to the 'Ocean to Ocean Highway' now being planned and appearing almost insurmountably stupendous, I say that it will be built and nothing on this earth can stop it. The need of a national highway from coast to coast has been so obvious that its possibility, in fact, its almost definite assurance, seems to be the most natural thing in the world. The plan proposed by C. J. Fisher of Indianapolis is the first practical plan to my knowledge that has yet been advanced. In pledging its *pro rata* of approximately \$300,000 the Goodyear Tire and Rubber Co. feels that it has done nothing remarkable or unselfish. We look upon the pledge as a movement on which we will expect to realize dividends. The fact that the industry is supporting this move argues to my mind that the manufacturers look upon the project in the same light. In my opinion the move will succeed, it deserves to, and the men behind it are calculated to see that anything that they back gets its deserts. In other words, they are business men and it takes business men, not politicians, to do all of the really big things of today."

THE RUBBER TRADE IN RHODE ISLAND.

By a Resident Correspondent.

THE winter season approaches with the rubber industry in Rhode Island in as fine a condition as it has been in its history. Three concerns, the National India Rubber Co., Bristol; the Phillips Insulated Wire Works, Pawtucket, and the International Rubber Co., West Barrington, are increasing the size of their plants. One new company, in which Providence men are interested, has been chartered under Massachusetts laws. Practically all of the plants in the State are running to their full capacity.

The opening of a wire-making plant in connection with the insulating work at the plant of the National India Rubber Co. has proved one of the most successful ventures that concern has ever undertaken. It began with a large quantity of orders, and the business has developed so rapidly since the substitution of this work for several departments which were moved to Cleveland, Ohio, that the size of the building is being increased and new ones are being erected.

Night and day work did not relieve the congestion, so recently the company officials let a contract for the erection of a one-story building on the north side of the insulating plant, to be used as a shipping room. It is to be 68 feet x 63 feet. W. G. Murphy has the contract. The structure is to be of wood with a concrete foundation. The old scrap room in the yard was recently remodeled and put into use as a storehouse. Two thousand persons are employed at the plant—more than ever before.

On September 26 the plant was closed for stock-taking in accordance with the plan of the United States Rubber Co. to have semi-annual inventories in the factories under its control. Operations were resumed on October 2. Repairs to machinery were made during the short period of idleness.

* * *

The Washburn Wire Co., Phillipsdale, Rhode Island, declared a quarterly dividend of 1½ per cent. late in September on its first preferred stock, which was payable to stockholders of record September 20 on October 1.

* * *

Eighty-five persons were entertained by the Mikado Club, an organization made up of employees of the Davol Rubber Co., at an outing and clambake at Emery Park, near this city, recently. One of the interesting features was a ball game between the married and single men, the former winning by a 10-4 score. The committee in charge of the arrangements included L. Page, R. Starritt, A. Cody, William Brennan and John Thornton.

* * *

Residents of Bristol were elated a few weeks ago when announcement was made that Col. Samuel P. Colt had completed an agreement with the New York, New Haven and Hartford Railroad Co. whereby he will stand half the expense of the elimination of a grade crossing on Asylum road.

This road leads from the mainland to Poppasquash, a neck of land which forms the western side of Bristol Harbor, and has a beautiful frontage on Narragansett Bay. By this arrangement a shore walk, corresponding to the famous right of way for the public across millionaires' estates in Newport, will be opened to the public in Bristol.

Col. Colt will build tar macadam roads as approaches to a bridge which the New Haven road is to erect across its tracks, and will keep the roadway in condition for five years. The estimated cost of the improvement is \$20,000.

Shortly before this agreement was reached, Col. Colt also pleased his townspeople by offering a strip of land to the Government, so that it would be unnecessary to have a sharply sloping right of way across a sidewalk in the rear of the post-office.

During a campaign in Providence recently to raise \$350,000 for a new Y. M. C. A. building, Col. Colt presented the committee in charge of the work a check for \$10,000.

* * *

Augustus O. Bourn, head of the Bourn Rubber Co. and former governor of the State of Rhode Island, entertained friends at his home, "Sevenoaks," Hope street, Bristol, in honor of his birthday on October 1. Dinner was served early in the evening and an entertainment was provided from 9 until 11.

Owing to the illness of Mrs. Bourn, the usual reception was not held. Floral decorations were much in evidence, however, and the sons and daughters of Governor Bourn assisted him in entertaining.

* * *

William Sutcliffe, who was assistant foreman at the Cranston Worsted Mill, Bristol, recently became a member of the office staff of the National India Rubber Co., Bristol.

* * *

The vulcanizing room, one story high, construction on which was started for the International Rubber Co., West Barrington, about a month ago, is practically complete. It is 70 feet x 70 feet. The new room gives much-needed space in the main plant for the manufacture of sheetings.

* * *

Engineer Ernest W. Crawley, of the United States Engineering Department, New Haven, was present at an insulated wire test at the plant of the National India Rubber Co., Bristol, on October 10.

* * *

Mr. and Mrs. Roswell C. Colt, who were married in London last summer, left Linden Place, the home of Col. Samuel P. Colt, Bristol, for Montreal early in October. Mr. Colt is interested in the rubber business in the Canadian city.

Shortly before their departure Col. Colt entertained a large party of friends in their honor. The guests included the townspeople as well as many from Providence, and also a number of members of the Legislature and college friends of Roswell Colt. A clambake was served. Music at the reception was furnished by a large orchestra from Providence.

* * *

Stockholders of the United States Rubber Co. in this State, of whom there are many, were pleased to receive notices on October 3 that the big company had declared from the net profits for the quarter beginning July 1, a dividend of 2 per cent. on the first preferred stock, 1½ per cent. on the second preferred stock, and 1 per cent. on the common stock.

* * *

Tax lists just published in the city of Pawtucket show that the Collyer Insulated Wire Co. is taxed this year for \$37,420 on its real property and \$20,000 on its personal; that the United Wire and Supply Co. is taxed for \$35,000 real and \$10,000 personal; that the Phillips Insulated Wire Co. for \$186,320 real and \$120,000 personal.

Herbert O. Phillips, head of the latter concern, is personally taxed for \$44,180 real and \$14,460 personal.

* * *

The National India Rubber Co., Bristol, has purchased two large motor trucks for hauling raw materials and finished products between its plant and the New York, New Haven and Hartford Railroad Co.'s freight yards in that town.

* * *

John J. Patterson, of this city, is president of a newly organized rubber concern, which is to be known as the Patterson Rubber Co. and is to erect a plant of five buildings in Lowell, Massachusetts. The capital stock is \$500,000. It will manufacture automobile tires.

* * *

George F. S. Singleton, of Franklin, Massachusetts—a town

located just over the State line from Woonsocket, Rhode Island—is one of the directors, and it is understood that he has considerable capital invested. Work on the construction of the plant is to be started very soon.

* * *

The Consumers' Rubber Co., Bristol, is daily shipping large quantities of rubber footwear. As the season progresses the business increases to proportions that it rarely attained before the Walpole Rubber Co. took hold of the plant following its financial difficulties several months ago.

* * *

The Washburn Wire Co., which is located in the town of East Providence, is assessed this year on a valuation of \$380,114. The assessed valuation of the Washburn Wire Co., located in the same section of the town, Phillipsdale, is \$637,000, an increase over 1911 of \$33,550. This was due largely to extensive improvements and additions to buildings.

* * *

About a year and one-half ago Dana McGovern, who for many years had been a worker in the National India Rubber Co.'s plant at Bristol, went to Maine on a hunting trip, and was not heard from thereafter. His body was discovered near Limerick in the latter part of September.

* * *

Theodore Duarte, who for many years was employed in the mixing department of the National India Rubber Co.'s plant, Bristol, died September 15. He was 67 years old.

* * *

Le Baron B. Colt, a brother of Col. Samuel P. Colt, and judge of the United States District Court, was given the unanimous indorsement of the Republican party of this State as a candidate for United States Senator at the State convention of the party held October 9 in Infantry Hall, Providence.

Judge Colt was practically the only party candidate for several months before the convention. Before his name was prominently mentioned it was expected in some quarters that Col. Colt himself would be a candidate again.

* * *

Many of the rubber concerns in this State have accepted the provisions of an Employers' Liability Act which was passed at the last session of the Rhode Island General Assembly. This law removes, when accepted, the common-law principles of assumed risk and fellow-servant negligence, and makes the employer liable for fixed charges or payments for various kinds of injuries, or a death.

THE RUBBER TRADE IN SAN FRANCISCO.

By a Resident Correspondent.

THE few rains which came early this season did not continue, and for a long time the weather has not been altogether to the liking of those whose interests are benefited by the sale of waterproof garments. On the whole, however, the merchants report that business has been very satisfactory, and much better than the same month last year. Without question this city has experienced much quiet business during the past three years, but the fact that there has been steady improvement has given assurance to business men that the future is bright, and that there is no longer any question that this city will maintain itself as the great metropolis of the coast.

The other day a parade made its way down the principal streets of the city, and it was significant as a forerunner of prosperous times. It was an impromptu parade, made up of the work teams of various contractors who are to supply the materials for the first building which will be erected on the grounds of the World's Panama Pacific Exposition. The old but decorated work wagons contained the materials actually to be used in the buildings—lumber, cement, paint, etc. It was a homely

parade, but it aroused genuine interest and enthusiasm in every merchant and business man who witnessed it.

* * *

The Federal Rubber Manufacturing Co., of Milwaukee, has announced its intention of opening a branch store in San Francisco, which will be the headquarters for an extensive Pacific coast system of stores. They have selected E. L. Rettig to act as their Pacific coast manager, and he is as capable and efficient a man as they could have chosen. For over twelve years he has been the sales manager for one of the most prominent and aggressive tire companies on the coast. The Federal tire is very well known in northern California—at least it is well known to those who study tires—and will have no difficulty in taking a place among the leaders. Although the company manufactures a complete line of goods, it will make a specialty on this coast of a non-skid tire called the "Rugged Tread." Mr. Rettig has left for the company's factory, where he will take up the matter of determining upon a location and many other details. This work will occupy him for at least a month. H. A. Githens, the general sales manager of the Federal Rubber Manufacturing Co., promises that no money nor pains will be spared in making this one of the leading tire establishments on the coast. E. L. Rettig has been connected with the Diamond Rubber Co. in San Francisco for many years, and has lately been manager of the solid tire, motorcycle and bicycle tire departments, and has acted as chief assistant to General Manager C. E. Mathewson. Before coming to San Francisco he was for three years with the Diamond Rubber Co., in Boston, Massachusetts.

* * *

J. B. Brady and W. H. Gilbert, of the Gorham-Revere Rubber Co., are now visiting the factories in the East in the interests of the company, and will return within a week or two. W. H. Gorham, manager of the company, has returned from a trip to Denver, and states that business is good.

* * *

F. M. Steers, president of the Pacific Mill and Mine Supply Co., has returned from a trip East, and while away he secured a number of valuable agencies. This firm's branch store in Los Angeles, California, has just moved into larger quarters in a store located at 432 East 3rd street. This is one of the busiest districts of Los Angeles, and places them right in the midst of the rubber fraternity.

* * *

Charles A. Gilbert, western district manager for the United States Tire Co., announces several important changes in the coast organization. H. A. Farr, who was in San Francisco a year ago, and since then has been manager of the Portland branch, has been placed in charge of the Seattle branch on the first of October. He will succeed H. A. Jones, who has resigned to accept a position as manager for Ballau & Wright, at Seattle, Washington. Mr. Jones will still be a United States Tire man, however, as the firm he is now with has the Seattle and Portland agency for the G. & J. tires, owned by the United States company. C. H. Mayer, who has been traveling—making San Francisco his headquarters—has been placed in Portland to act as manager there. Mr. Gilbert, the district manager, has been over the entire territory attending to the changes indicated above.

Mr. Gilbert is assuring all of his constituents that there will be plenty of tires for the coast trade this winter, as his company informs him that all of its factories will be run on the summer schedule—i. e., night and day, three shifts of workmen being employed.

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The Gutta-Percha and Rubber Manufacturing Co. reports that business in the mechanical rubber line is very good.

* * *

Jas. F. Jiles, general manager of the American Hard Rubber Co., will soon arrive in San Francisco to pay a visit to his coast agents, the Goodyear Rubber Co.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

DITMAR and Thieben in "Zeitschrift für Kolloide," August, 1912, draw attention to the change which certain fillers undergo during the steam vulcanization process. Sulphur and various chemical fillers were mixed and submitted to vulcanization temperatures. It is somewhat surprising to read

DETERMINATION OF MINERAL FILLERS IN RUBBER. of the production of magnesium and calcium sulphides from the carbonates—

of zinc sulphide from the oxide—and

of barium sulphide from the sulphate. These changes, they say, must influence vulcanization, but their special importance, they add, is in regard to analyses which cannot give an accurate clue to the composition of the mixing. This deduction goes without saying, and it cannot be too clearly understood that an analysis of rubber goods, however accurately carried out, does not necessarily indicate the composition as put in the mixing. I am of opinion, however, that an expert can deduce the original mixing pretty accurately from the results of his analysis. Such work, by the way, should not be attempted by those who have attended a course of sixpenny lectures at some technical school or other, in order (*vide* prospectus) to enable them to undertake rubber analysis if called upon. But to revert to my theme, whatever may be the chemical changes which occur during steam vulcanization, these are further considerably modified when the rubber is incinerated. Potts in his recent book devotes one or two lines to this important topic, but the subject is worthy of greater elaboration. The analyst who works rapidly and cheaply does not always recognize the considerable errors which may be involved in the determination of mineral matter, by the convenient method of direct incineration and where the result obtained is returned without correction, this should be stated. Cases have come under my notice with regard to important contracts for rubber goods, where discrepancies in analyses have arisen from the fact that, while one chemist has returned the figures obtained by direct incineration, as representing the original mixing, another has obtained different and more accurate figures, by making important corrections. Such corrections are usually arrived at by a combination of analyses and intimate knowledge of the manufacture, and I do not see any likelihood of factors being obtained, which could be utilized as necessary corrections.

OLD-ESTABLISHED rubber works doing a general business are complaining of the amount of competition which has arisen in re-

CUTTING PRICES IN THE MECHANICAL TRADE. cent years in the mechanical branch. Not

that they fear any disaster to themselves,

but from the fact that the lower quotations, sent out by new people who are compelled to get business somehow, have an unsettling effect upon customers. Newcomers in many cases have rapidly acquired what appeared to be a good business connection, only to lose it when the customers find that, while the goods are certainly cheaper, they are at the same time decidedly inferior. Various works established for the manufacture of goods by some special process, or for the exploitation of a particular patent, have, owing to difficulties arising, gone into the ordinary mechanical rubber trade, an instance of this being given in an adjoining paragraph. In many cases also, the various small works, established primarily for the rubber heel manufacture, have added certain mechanical goods to their list. As a rule, the rubber manufacture in Britain in the past has been carried out, not on lines of specialization, but with the idea of covering a variety of branches. It has been thought that this is the best way to avert any disaster in the case of exceptional slackness in a particular branch. This view

is strongly held today, judging from what the manager of a large general works told me recently. "Look at so-and-so and so-and-so," he said, as a warning illustration as to the unwisdom of engaging in one particular branch only, in face of the competition to be faced from those who could afford to lose on a special branch, in order to retain customers, and yet have a successful year owing to good business in other branches. "The new competition in mechanicals," he said, "is viewed by us with complacency, as we feel sure that in many cases the interference with our trade can only be temporary." The managing director of another old-established firm, when spoken to on the subject, said he really could not understand how some of the cheap mechanical goods (including cycle tires) now on the market could be sold at a profit. They were not attempting, he said, to compete; if they had any demand for such goods they preferred to buy them from the people making them, rather than risk the scratching of good machinery by the working of mineral instead of rubber.

To refer shortly once again to the explosion which occurred at the North Western Rubber Co.'s works in October, 1910, the

SAFETY VALVES FOR DEVULCANIZERS. commissioners who conducted the Board of Trade inquiry in the following year, and whose report has been issued re-

cently, recommended that an automatic safety appliance should be used in the future. The devulcanizer, they added, could not be said to be worked under safe conditions without some safety appliance, though they did not propose to make any definite recommendation as to what form this should take. Now this expression of opinion is entirely disagreed with by Mr. J. F. L. Crosland, the chief engineer to the Vulcan Boiler and General Insurance Co. of Manchester, with whom the devulcanizers were insured. In an interview I had with Mr. Crosland he was emphatic that not only would any such safety appliance be useless, but it would be a positive source of danger under the special conditions, as it would be sure to get clogged. All that was necessary, he said, was to have the manhole at the top of the side of the devulcanizer instead of at the surface. By this means the overfilling which led to the explosion of hydrostatic pressure could not occur, and any danger would be entirely obviated.

A CASE of some importance to British manufacturers of transparent druggists' rubber goods, such as teats and soothers, has

LEGAL DECISION. just been decided. Some little time ago a French patentee instituted proceedings

against Messrs. J. C. Ingram & Son of Hackney Wick, London, the well-known rubber manufacturers, for infringement with regard to transparent rubber. The action was defended by Messrs. Ingram with the support of other English manufacturers, notably the Leyland & Birmingham Rubber Co., Limited. Judgment has now been given in the French courts to the effect that the French patent has been declared void.

AN interesting and important development in connection with this well-known motor tire firm has to be recorded. This is

SHREWSBURY & CHALLINER TIRE CO. that the control has passed into the hands of Messrs. Chas. Macintosh & Co., Limited, whose works at Cambridge street, Manchester, are little more than half a mile distant from the works of the above tire company at Ardwick Green. The tire company owes its rise and progress to Mr. Challiner, the Earl of Shrewsbury and Talbot, though financially interested, not having taken any very active part in the business. Two years ago the factory was considerably enlarged. The main

business is in connection with solid tires for vehicles, especially heavy twin tires for commercial motors. Under the new arrangements the whole of the ordinary share capital is held by Messrs. Macintosh, the holdings of the original shareholders being converted into preference shares carrying a fixed rate of interest. The management is entirely under the control of Messrs. Macintosh, the preference shareholders not having any voting power, except in the case of certain specified eventualities. This absorption by Messrs. Macintosh is not a new departure, as on former occasions I have referred to the taking over of other rubber businesses, including the Eccles Rubber Co. and the Liverpool Rubber Co.

THIS well-known firm of asbestos manufacturers of Rochdale have just completed large branch works at Trafford Park, Manchester, not far from the ship canal.

**TURNER BROS.
LIMITED.**

This extension, I may say, does not presage any new departure in the business or any cessation of the present Rochdale activities. It is merely an extension of the present business on a site which offers better business facilities, more especially in regard to freights, than does the Rochdale site, which, being served by one railway company only, is not so advantageously situated as Manchester, which has four or five competing lines. The new works are about 40 minutes motor run from Rochdale, where the business headquarters will remain. Although at present no new departure in manufacture is arranged, it is quite probable that the future will see developments on lines entirely new to Great Britain.

I UNDERSTAND that the Crude Rubber Washing Co., Limited, whose reduction of capital has already been referred to, is relinquishing the rubber washing business altogether. A move has been made to

**TRADE
JOTTINGS.**

Wembley, about ten miles from London, where the Alperton works, started by Mr. Carpenter, of Charing Cross Bank fame, have been taken over. The business to be carried on will be the manufacture of mechanical rubber, tire-treads, etc., the machinery having been obtained at the sale of the Unity Rubber Works, Manchester. The Edmonton works, where the Murac and rubber washing business was carried on, are now in the possession of Mr. Dessau, late manager of the Crude Rubber Washing Co. Golf balls and other articles are being made there.

Mr. Ferguson, son of the late senior partner of the firm of Ferguson, Shiers & Co., waterproofers, of Newton Heath, Manchester, and who has been acting as works manager, has terminated his connection with the firm, and the business will be carried on by Mr. Shiers alone.

The Clyde Rubber Works, Limited, which are situated in a crowded quarter of Glasgow, are building more commodious works at Renfrew.

The recently issued report of the Rubber Tanned Leather Co., Limited, which has its factory at Ross, near Hereford, shows a debit balance of £3,059, and the question of raising further capital is under consideration. The result of the suit brought by the Société Franco-Belge de Tannage et de Cuir was adverse to the English company and the legal expenses amounting to £3,000 odd have been written off. Despite the somewhat unsatisfactory report, it is clear that rubber-tanned leather is making headway, especially for leather belting, repeat orders for which are coming in from various foreign centers as well as home markets. It is on this class of goods that the factory at Ross is mainly engaged at present, and a branch factory has also been opened in this connection in Canada.

INCREASED EXPORTS OF GERMAN RUBBER GOODS.

According to latest published statistics, the German exports of rubber goods increased for the seven months ending with July

from 5,591 tons in 1911 to 10,990 tons in 1912, being an increase of nearly 100 per cent. in the aggregate. The proportions of soft and hard rubber were for the seven months:

	1911.	1912.
Soft.....	4,785 tons.	10,035 tons.
Hard.....	806 "	955 "
	5,591 tons.	10,990 tons.

It is of interest to note the relative preponderance of soft rubber, both in the actual quantity and in the rate of increase.

NEW GERMAN IMPREGNATION PROCESS.

A company styled "Terovin, G. m. b. H." has recently been formed at Cologne for the utilization of a patent process for preserving the elasticity of rubber goods. The object is effected by a chemical emulsion, applied to the articles to be treated. This new product has proved specially adapted for the impregnation of pneumatic tires, considerably increasing their durability.

RUBBER BELTING CHEAPEST.

According to German reports, rubber belting is receiving increased attention in that country, consumers recognizing the fact that although higher in price, it is more economical in service than textile belting. Thus, a main driving belt was lately replaced, which had been sixteen years in constant service, and subject to considerable strain during that period.

AUSTRIAN CABLE FACTORY INCREASES CAPITAL.

The Kabelfabrik-und-Drahtindustrie-Aktien-Gesellschaft, of Vienna, has increased its capital from the equivalent of \$1,200,000 to \$1,520,000.

SWEDISH RUBBER SHOE MANUFACTURERS ADVANCE PRICES.

Owing to continued rain, Swedish rubber shoe manufacturers have been enabled to maintain their recently advanced retail prices.

RUBBER TRADE IN JAPAN.

By Our Regular Correspondent.

THE JAPANESE PACKING TRADE.

ACCORDING to a special report of the Japanese Custom House Bureau, the imports of rubber packing for 1911, showed, as compared with 1910, a decrease of about 10 per cent. in quantity, coupled with an increase of about 3 per cent. in value, as shown by annexed table. The reasons of this are threefold. First, the so-called rubber plate, lined with fabric, was being made by Japanese rubber manufacturers, its import being reduced to one-third of that of 1910. Secondly, the import of cheaper core-packing decreased. Third, the import of higher grade Amazon packing increased; its greater durability than that of core packing being recognized as making up for its higher cost. The imports of asbestos packing remained about the same as before.

The demand for this class of goods is being developed every year, but is being partly supplied by the two companies making rubber plate; Mitatouchi Rubber Manufacturing Co. (Tokio), and the Dunlop Rubber Co. (Far East), (Limited), Kobe.

Prices of goods in the countries of production, as well as in Japan, did not show any marked fluctuations. Market prices are now:

	PRICES PER POUND.	Yen.	Cents.
Rubber packing.....	.36	18	
Core packing .....	.38	19	
Amazon packing.....	1.30@1.75	65@88	
Asbestos packing.....	.40	20	

JAPANESE IMPORTS OF PACKING.

	1910.		1911.	
	Pounds.	Value.	Pounds.	Value.
Great Britain.....	484,991	\$91,033	397,156	\$75,271
Germany.....	179,639	25,801	131,260	19,649
Italy.....	83,096	11,714	88,588	14,324
United States.....	84,385	41,723	130,043	64,762
Other countries.....	2,491	337	2,740	591
	834,602	\$170,608	749,787	\$174,597

INSULATED ELECTRIC WIRE IMPORTS.

The Japanese imports of submarine telegraphic or telephonic cables have diminished under the influence of domestic manufacturers in that line. In three years they have represented from January to June—1910, \$238,470; 1911, \$165,759; 1912, \$36,006.

All other classes of insulated wire represented during a similar period:

	Pounds.	Value.
1910.....	2,724,869	\$340,777
1911.....	14,047,505	1,322,256
1912.....	7,952,928	666,735

The cause of the large increase shown for 1911 (apart from the impending new tariff) was the number of hydro-electric companies, electric car companies and electric light companies, projected or established in consequence of the development of electricity over the country. As a result of the imports having again fallen off in 1912, domestic manufacturers secured a large accession of business during the first six months of the current year. For instance, it is announced the Fujikura Electric Wire and Rubber Co., Limited, paid for that period a dividend at the rate of a little over 20 per cent. per annum.

Exports of insulated electric wire, January to June (chiefly to China and Japanese China) represented—1910, 336,801 pounds, \$56,102; 1911, 164,936 pounds, \$34,248; 1912, 134,668 pounds, \$27,968.

Statistics of the electric installations in Japan on December 31, 1911, show that there were at that time 2,765,169 electric lamps, averaging about ten candle-power, and 10,419 electric motors, with a total actual horse power of 47,188.

JAPANESE TRADE IN JINRIKISHAS.

According to official reports, Japanese exports of jinrikishas, which had been relatively active in 1910, fell off in 1911. This was specially the case as to the Straits Settlements, which had taken in 1910, about 80 per cent. of the total exported from Japan. Owing to the dullness in Singapore, caused by many Chinese workers leaving for their native land, the demand fell off 22 per cent. in quantity, while the value was only diminished by 5 per cent., the adoption of higher grades being thus indicated. During the first six months of this year, business revived in the Straits market. In Annam, moreover, business was better than in Singapore. Rubber tires are there adorned with red paint, which gives them a characteristic aspect.

JAPANESE JINRIKISHA EXPORTS.

	1910.		1911.	
	Number.	Value.	Number.	Value.
China.....	1,286	\$21,548	1,046	\$20,781
British India.....	1,406	31,172	976	19,987
British Straits Settlements..	11,027	148,128	8,616	149,109
Other countries, including				
Corea.....	478	8,329	188	4,209
Total.....	14,197	\$209,177	10,826	\$185,086

RUBBER PLANTING IN SIAM.

The Japanese Consul at Bangkok, the capital of Siam, has reported that rubber planting in that country is now in a tentative period; the most favorable districts being the two states of

Champon and Segora, on the east coast of the Malay Peninsula, facing the Gulf of Siam. At the south of those two states is a state named Pato-ni, where there are already 300 acres planted with 58,000 Pará trees. In Chautaburi State (northeast of Bangkok), rubber planting has also been tried on a large scale.

This state resembles the Malay peninsula in climate and fertility, but owing to the droughts usual in spring, tapping is later by one or two years, than is the case there. Two of the plantations (aggregating 160 acres) are operated by individuals, and one by a stock company, styled Borisab Sowan, Chautaburi, with a capital equaling \$22,500, which owns an area of 800 acres. Of this acreage 200 acres are planted with 16,000 Pará trees, the bulk of which were planted in July, 1911, and have now attained a diameter of an inch to an inch and a half; 600 trees having been planted two years ago. One of the representative men of this company is Mr. K. Tanje, a Japanese, who has become a naturalized Siamese.

The total area planted in rubber in Siam is estimated at about 3,000 acres, but the enterprise is of such recent date that it has not yet been possible to determine whether it is suited to the country.

The opinion is expressed in the official Japanese report, that if suitable locations are selected, Siam will in the future become a good rubber planting center, having much uncultivated land, with many of the characteristics of tropical countries. Siam, it will be recalled, is to the northeast of the Malay peninsula.

CYCLE, MOTOR-CAR AND JINRIKISHA SHOW.

This show was held during the early part of the summer of 1912 at the Shiba Exposition Hall, Tokyo, and included some 30 exhibitors. Among them were chiefly English-made cycles and automobiles, exhibited by Japanese traders. The exhibits included those of the Dunlop Rubber Co. (Far East), Limited, Kobe; the Meiji Rubber Works, Tokyo; the Leicester Rubber Co. of England, as well as various British and American makes.

Exhibits of other rubber manufactures included medical goods and carriage mats from the Meiji Rubber Works, Tokyo, as well as rubber gloves for electricians, hose and heavy rubber heels from the Ingram Rubber Manufacturing Co. of Japan, Limited, Kobe.

FURTHER JAPANESE RUBBER COMPANIES.

The Kawaji Rubber Works were established at Higuretori, Fukiai, Kobe, in October, 1907, with a capital of \$5,000. The principal manufactures are toy balls, sporting and mechanical goods, jinrikisha tires, etc. Its equipment includes one 15 h. p. engine and one boiler of 20 h. p. Messrs. K. Kawaji and H. Suba are the proprietors.

The Kobe Rubber Manufacturing Co., Ltd., was established at Wakinohama, Kobe, in January, 1912, making tires, tubing, etc. Mr. W. H. Coast is the expert. All the members of the company are English, most of them having been connected with the Dunlop Rubber Co. (Far East), whose success encouraged them to branch out for themselves.

The Rubber Co. was established at Sumiyoshi-mura, in 1887, being the oldest factory in Osaka and Kobe. Its specialty is a water bottle, the annual output of which amounts to 20,000, principally sold to consumers in Tokyo. This bottle is made by a special and original process, which requires less machinery than the foreign method, but takes more hands. This factory has one fifteen h. p. engine. Many of the Osaka water-bottle manufacturing companies have emanated from this concern.

BRAZILIAN GOVERNMENT TENDERS.

On December 30, the Ministry of Agriculture at Rio de Janeiro, will receive tenders from persons who may propose to establish factories for the refining and manufacture of rubber, in accordance with the law of January 5, 1912 and the subsequent regulations. The provisions of the law were reported in THE INDIA RUBBER WORLD of June 1, 1912 (page 426).

Some Rubber Planting Notes.

RUBBER IN ABYSSINIA.

ACCORDING to the communication of Professor Henri Jumelle, of Marseilles, France, to the "Agriculture Tropicale," Abyssinia in 1910 exported 310,500 pounds of rubber. Rubber vines, principally *Landolphia*, are found in almost all the forests at altitudes of 8,000 to 10,000 feet; those which grow near the rivers being of inferior quality. The vines, which are being worked, have a length of 80 to 100 feet; the trunk, with a circumference up to 14 inches, being frequently divided 3 feet above the ground, into the large interlacing branches.

To obtain the latex, the natives draw down the trunks towards the ground, keeping them in a horizontal position by means of cords, attached to stakes fixed in the ground. They then make circular incisions at various points, beneath which the latex is received in curved *orki* leaves. When these are full, they are poured into a calabash. The native effects the coagulation the same evening in his cabin, using for this purpose the concave iron disc in which he usually makes his bread.

This metallic receptacle is placed on the fire, and the rubber thus prepared is delivered to the representatives of the employing company, who wash it and dry it for a month, sheltered from the sun's rays. They finally smoke it several times, burning small branches or leaves.

In Abyssinia there are numerous forests, the working of which has not been commenced, owing to the difficulty of communication. In consequence of the improvements anticipated for 1912, the hope is entertained of an important development of Abyssinian rubber exports.

DEVELOPMENT IN THE FEDERATED MALAY STATES.

In his recent summary of the progress of the British Colonies, the Colonial Secretary, Mr. Harcourt, said that if ever his name were to be honorably remembered as a colonial minister, he hoped it might be in connection with two things—railway building and tropical medicine. He was certainly able to show that both have made excellent progress in the last few years. Perhaps nowhere has the iron horse made greater strides than in the Federated Malay States, so that, as he pointed out, on the completion of the extensions in progress or projected, one may travel direct by rail between Penang or Singapore and the Siamese capital.

As regards the second point, he alluded to the special encouragement promised to the study of tropical medicine and the prevention of tropical disease. While much has already been accomplished, including the theoretical conquest of malaria and yellow fever, and the pending conquest of beri-beri, there is still a big task ahead in this direction.

Department reports arriving in England from Kuala Lumpur point to a continuance of the development of the trade and industries of the Malay Peninsula, which has been so marked during recent years.

AMAZONIAN ANTICIPATIONS OF THE EXPOSITION.

In discussing shortly before the opening of the exposition, its prospects as affecting Brazil and particularly the State of Amazonas, the "Revista da Associação Commercial do Amazonas" of Manáos, comments upon Asiatic rubber being thus placed in direct opposition to the Brazilian article in leading markets for the consumption of the latter. Attention is also called to the fact that while on previous occasions only state assistance had been available, still a gold medal had been awarded to the Association for the best sample of rubber; referring to the special gold medal of the Rubber Growers' Association, obtained last year in London. With much difficulty the Federal Government was

brought to see that it would never do to refuse this challenge on the part of its rivals to a trial of strength.

For the first time, it is added, a combination has been formed, with perfect harmony of purpose for the defense of the chief export product of the Basin of the Amazon; thus dispelling the idea of disunion or lack of confidence on the part of the Brazilian rubber states.

RIVERSIDE (SELANGOR) RUBBER CO., LIMITED, FEDERATED MALAY STATES.

A more than three-fold increase is reported by the Riverside Rubber Co. in the first nine months of 1912, as compared with the same period of 1911; the figures being, respectively, 120,056 and 37,319 pounds.

SCOTTISH MALAY RUBBER CO., LIMITED, FEDERATED MALAY STATES.

The total crop of the Scottish Malay Co. for nine months ended September 30, 1912, was 119,160 pounds, as compared with 53,534 pounds for the corresponding period of 1911. As the September yield was 17,427 pounds a large increase of last year's output of 102,017 is looked for by the end of the twelve months.

GOLDEN HOPE RUBBER ESTATE, LIMITED, FEDERATED MALAY STATES.

As compared with a total output for 1911 of 109,655 pounds, the yield for the first nine months of 1912, amounting to 98,384 pounds, indicates a good prospect for the year's result of the Golden Hope Rubber Estate, Limited. There have been 60,944 pounds sold at an average of 4s. 6d., while for 1913, 18 tons of No.1 are contracted for at an average of 4s. 7d. per pound.

FEDERATED MALAY STATES EXPORTS.

The returns to end of September show a marked increase over those for corresponding period of 1911 and 1910.

	January	February	March	April	May	June	July	August	September	Total to date	
	768,743	728,458	899,383	1,123,097	877,435	879,675	971,469	981,022	1,110,476	8,339,758	1,329,170
											2,715,767
											3,085,583
											2,285,390
											2,255,034
											2,305,915
											2,695,861
											3,655,535
											2,968,121
											24,701,782

HARD FINE PARÁ IN CEYLON.

A recent issue of the "Times of Ceylon," contained an interesting paragraph regarding a demonstration given by Mr. H. A. Wickham, the father of plantation rubber, in which he produced hard fine Pará from Ceylon latex. The paper calls the product equal to the Brazilian article.

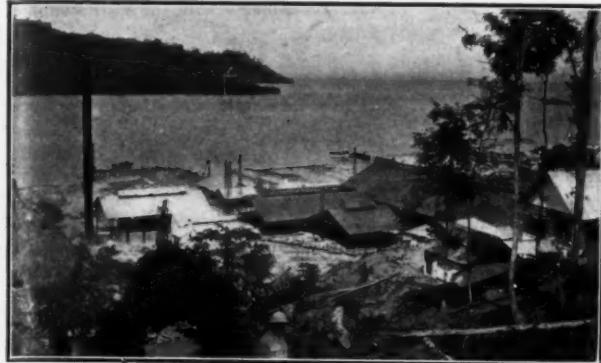
"To Hanwella estate belongs the distinction of being the first to turn out Ceylon hard fine Pará.

"Mr. Wickham, who contends that the difference between Brazilian hard fine Pará and plantation rubber is only a matter of treatment, has given a demonstration on the estate, and the results, which have turned out quite satisfactory, are to be seen in the premises of the Colombo Commercial Company in Slave Island. The rubber has been turned out in the shape of blocks, and is believed to be equal in every respect to fine hard Pará, consisting as Mr. Wickham says, not of a curd or coagulation latex, but of an amalgam of the whole of the latex with the preservative smoke.

"The opinions of the market on the rubber will be awaited with interest. Mr. Wickham says that he has found plantation latex if anything richer than that produced on the Amazon, and similarly treated ought to form superior not inferior rubber."

JELUTONG AND WHERE IT COMES FROM.

IN the pages devoted in this issue to the description of the various exhibits shown at the Rubber Exposition, there is a paragraph referring to the United Malaysian Co. as that is primarily an American company which has succeeded in building up a very considerable business in one of the lesser rubbers of the Middle East—jelutong—it may be interesting to many people to get a little more extended information regarding the company than could properly be given in a description of its display at the Exposition.



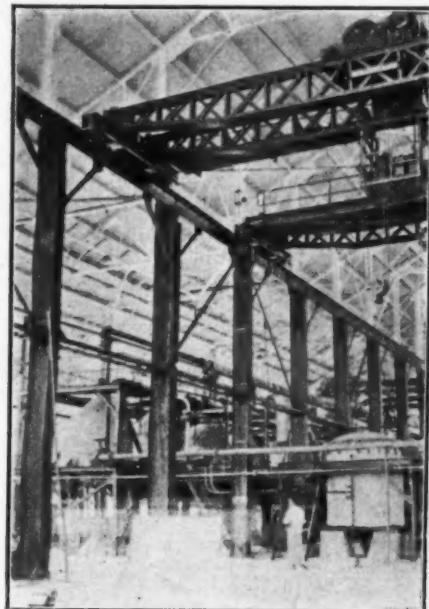
VIEW SHOWING PART OF KARIMON PLANT.

This company was formed in 1908 to gather, prepare and ship jelutong in the Middle East, and began the construction of its plants in the spring of 1909. It acquired large concessions in Borneo and planned and started the town of Goebilt on the northern coast of that island in the British Province of Sarawak. It also made arrangements for gathering jelutong in the Great Karimon Islands, Sumatra and in the Federated Malay States. It built two plants—one on the Karimon Islands, the other at Goebilt—getting them in operation in the fall of 1909. Its first shipment was received in this country in December of that year.

The jelutong tree grows in considerable profusion in the section covered by this company. The tree reaches a height of 150 feet—sometimes more—the branches being confined to the upper third of the trunk. Formerly, the natives tapped these trees in a very wasteful way, abusing them so much

States, the other half going to England and Germany.

This variety of rubber is often referred to as Pontianak, because of the port in Borneo from which it is shipped, but this is an improper name for it, and is not used anywhere except in the United States. Its scientific name is *Dyera Costulata*.



INTERIOR VIEW OF PLANT AT KARIMON.

Mr. J. Warren Bird, manager of the New York office, 2 Rector street, was in charge of the exhibit and he was kept busy answering the many questions that were prompted by the display of handsome sheets of jelutong crepe, and by the large photographs that every visitor stopped to look at. He distributed a small pamphlet, entitled, "Some Facts About Malaysian Rubber," in which is included a number of formulae for compounding this rubber in the manufacture of tires, packing, and other rubber goods.

The four illustrations here shown give a little idea of the work the company is doing. One shows a general view of the plant at Karimon Islands; the second, an interior view



STAFF BUNGALOW.



CRUDE JELUTONG AT GOEBILT.

that in many instances they were killed. These abuses the company has made great efforts to stop, and the trees are now being tapped in such a way as not to injure them.

One-half the product of this company comes to the United

of the main factory built at that point. The third shows one of the bungalows occupied by the members of the staff; and the fourth shows a quantity of jelutong at Goebilt ready for shipment.

NOTES FROM BRITISH GUIANA.
From Our Regular Correspondent.

PROSPECTS OF THE BALATA INDUSTRY—A GLOOMY OUTLOOK. THE position of the balata industry is not such as to give cause for general satisfaction. Ominous complaints have been received from the interior, where bleeding operations are in progress, that the trees are already refusing to yield. It is a fact that the dry weather, which is due in the ordinary course of events now, has already set in, but owing to the long duration of the drought it was thought possible that the rainy season might have extended beyond the usual period. Such has not been the case, and since I last wrote we have had scarcely any rain. I have it on good authority that most of the gangs are returning to the depots, alleging that it is only possible to get balata by spoiling the trees, which would constitute in offense, and that unless rains fall quickly the season will be a failure. These rains have not fallen and already one gang of men, sent up in May by Messrs. Bugle for six months, has returned, the men asserting that they remained as long as balata was there to bleed, but to remain longer was useless. This statement has been accepted, and the men have been discharged. It is said that unless matters improve very quickly—which they show no sign of doing—only one-third of the usual crop will be realized.

Up to September 26 the exports were only 165,552 pounds, against 524,541 pounds for the same period last year. It was hoped that as shipments came more rapidly to town towards the end of the season, some sensible impression would have been made upon the deficit, although it was not anticipated that it would have been entirely obliterated. It seems as though the influence of the drought is going to be as disastrous as the most pessimistic feared. If that is the case it cannot be doubted that the result will be disastrous both for the industry and the companies concerned. Already the events of 1911 have driven some companies from the field, but it was hoped that the experiences of that year would have been so instructive that 1912 would have been made more profitable. If matters do not mend, as is feared, very little margin of profit will remain to the companies. The advances to laborers have been more than usually heavy on account of the drought, and it is doubtful if they will make sufficient to clear themselves. Absconding has been fairly rife this season, and with an output a third of the normal, companies will not be in a favorable position to pay for expeditions, which have been more costly than usual. The outlook is by no means bright. Happily the industry has not the dead-weight expenditure of export duty on balata to meet this year.

THE REVENUE AND THE INDUSTRY—TOTAL AMOUNT OF ITS CONTRIBUTIONS.

Exactly how large the amount was, and how oppressive to the industry, is disclosed by the report for 1911-12 of the receiver general, R. Clifton Grannum, containing the financial statements of the colony. The colony's exchequer benefited from the export duty on balata to the extent of \$22,102.96, an amount of \$2,102.96 more than was estimated. It is interesting to record that the surplus of revenue over expenditure for the year was just \$23,359.86, so that if this duty had not been imposed the Government would have been about \$1,000 to the good as the result of the year's transactions. Other contributions to the revenue by the industry were \$23,457.15 in royalties, and \$16,400 in licenses. So that altogether in round figures the industry contributed \$61,960.11 to the revenue. This does not include, of course, the indirect contributions made by the laborers in the industry to customs revenue. They were not inconsiderable.

MR. STOCKDALE PROMOTED—DIRECTOR OF AGRICULTURE IN MAURITIUS.

The news has been received here with some regret that Mr. F. A. Stockdale, Assistant Director of Science and Agriculture, has accepted the offer by the Secretary of State for the Colonies

of the appointment as Director of Agriculture in Mauritius at £800 per annum. Mr. Stockdale just doubles his emoluments, and the promotion he has received is well deserved. Since he came to the colony in 1908 he has taken the greatest interest in the rubber and the balata industries, and has done some useful work at the Government's various experimental stations. He represented the colony most successfully at the Rubber Exhibition in London last year.

SOME TAPPING EXPERIMENTS—MR. STOCKDALE'S REPORT.

Mr. Stockdale has just issued his report on his visit to the experimental station at Issorora in the North Western District, where he commenced tapping experiments with the Pará rubber trees that have reached a tappable size. He says: "These experiments have for the present been laid out in two series, with two groups in each series. The trees are being tapped on alternate days on the half-herring bone system, and the latex is being coagulated with dilute (1 in 10) acetic acid. Notes made at the time the experiments were commenced show that the trees on the station may be divided into at least four groups according to the structure, thickness, etc., of their barks. Records are being kept of the different trees, and it will be possible later to compare the yields of rubber given by different types of plants. The latex in some trees was found to be of a yellowish hue at first, but eventually turned to a whitish color as tapping proceeded. In others the latex is a pure white from the commencement. The first latex obtained was of a thick consistency and coagulated readily in the cuts, but after a few tappings it became thinner and ran readily in the cups. The rubber is for the present being turned into biscuit form and is well washed in cold rain water. It appears to be of good quality, and is of good strength, elasticity and resiliency. A careful record is also being kept of the times that rains or showers fall at the station, in order that after a few years reliable information might be available for the district. The question of the time when rain falls in a district is of importance for rubber planters, and data on this point are required.

Tappings of young plantation *Sapium Jenmani* are also being commenced. The latex of these trees did not run freely. It coagulated readily, and consequently the rubber had to be collected as scrap. This rubber when carefully washed and dried appears to be of good quality. Several systems of tapping will be tried, and the relative yields of the different methods will be obtained. Extension work is being pushed along, and the planting of *Hevea Brasiliensis* is taking place as rapidly as possible. The planting of the third ten acres of the extension over the creek should be completed during this year, and further trials are being made on the hill slopes in conjunction with balata, letter-wood, and bastard letter-wood. Trials with various kinds of coffee are also being undertaken, and it is possible that planting of the creole variety on the hill slopes will be started. A visit was also made to the David Young Rubber Estates on the Aruka River, and the progress of the different kinds of rubber-producing trees was noted. The Pará rubber trees were bearing quite a fair crop of seed pods, and with suitable weather conditions a number of seeds should be obtained from this property this year.

BALATA AND RUBBER IN THE NORTH WESTERN DISTRICT—INTERESTING FIGURES.

That small progress is being made in the rubber and balata industries in the North Western District of the colony is revealed by the report of the commissioner, H. Thompson King. He records an increase in the quantity of balata and rubber shipped for the district during the year 1911-12, but says that the estimated returns have not been realized. He attributes this result to the exceptionally dry weather during the greater part of the year. There is not much hope that 1912-13 will produce an appreciably better result, if as good. The output of balata from the three sub-divisions was as follows: Barima, 5,498

pounds, against 116 pounds in 1910-11; Barama, none against 2,318 pounds in 1910-11; Waini, 5,559 pounds, against 5,042 pounds in 1910-11; total 11,057 pounds against 7,476 pounds. Rubber so far has come from Barima only; 1,837 pounds, against 102 pounds. The combined products have contributed \$257.88 in royalty, against \$157.56 in 1910-11. There has thus been an increase of 3,507 pounds of balata, 1,725 pounds of rubber, and of royalty \$106.32. The rubber industry, however, is practically at a standstill in this part of the colony. Mr. King reports: "The Consolidated Rubber and Balata Estates, Limited, have done nothing on the tracts held by them under license from the Government, and with the exception of a little clearing nothing has been done on the estates of other companies owning properties in the district. I understand that this cessation of work on the properties other than those of the Consolidated Rubber and Balata Estates, Limited, has been caused by financial difficulties."

The experimental station at Issorora is being extended; the ten acres underbush in 1910-11 being planted with Pará rubber. The remaining ten acres of the extension have been cleared and prepared for planting. An area of four acres has been cleared on the hill slopes for the purpose of conducting experiments in connection with balata growing.

PHILIPPINE RUBBER PRODUCTION.

IN considering this important question, one of the first points claiming attention is the present situation of Philippine exports of rubber and kindred products.

Philippine statistics, not being so detailed as those of this country, group under one head "Gums and Resins"; for which the latest published returns (those for the year ending June 30, 1910), show a total value of \$107,271, thus classified:

Almaciga (mastic)	\$71,117
Gutta percha (209,618 lbs.)	31,903
Rubber (1,113 lbs.)	749
All other gums and resins	3,502
Total	\$107,271

The distribution of this amount is shown as follows:

PHILIPPINE EXPORTS OF GUMS AND RESINS—1910.

	Almaciga. Value.	Gutta Percha.		Rubber.		All Other. Value.
		Pounds.	Value.	Pounds.	Value.	
Europe—						
Austria-Hungary	\$50	...	...	143	\$200	\$2,772
Germany	195	...	...	...	...	...
Spain	5	...	...	...	...	...
United Kingdom	7,192	\$842	...	750	\$20	730
America—						
United States	32,080	...	...	99	29	...
Asia—						
China	100	...	...	...	...	...
East Indies—British. 38,642	202,228	31,016	...	...	...	...
Japan	198	45	...	...	...	...
Oceania—						
Australia	45	...	...	...	...	...
Totals (\$107,271)	\$71,117	209,618	\$31,903	992	\$749	\$3,502

A dissection of the total amount for gums and resins amongst the various countries of distribution shows:

British East Indies	\$69,658
United States	32,109
Germany	3,167
United Kingdom	2,092
Other countries	245

Total	\$107,271
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EARLIER STATISTICS OF RUBBER AND GUTTA PERCHA. INDIA RUBBER.

While the figures quoted above for 1910 are of the most recent interest, those since 1904 (furnished through the courtesy of the Bureau of Insular Affairs) illustrate the course of the experimental cultivation of rubber during the last eight years. These results must necessarily form the basis of any future action.

PHILIPPINE EXPORTS OF RUBBER, CALENDAR YEARS 1904 TO 1911.

	United States Pounds	British East Indies. Pounds	Germany. Pounds	England. Pounds	Other Countries. Pounds	Total. Value
1904.	281	\$93	5	...	...	281 \$93
1905.	62	5	...	...	...	62 5
1906. . . . .	...	...	...	...	...	...
1907.	375	35	...	...	...	375 35
1908.	3,757	615	...	...	...	3,757 615
1909.	99	\$29	...	143 \$200	750 \$520	33 \$9 3,790 624
1910. . . . .	...	...	...	...	...	992 749
1911. . . . .	...	...	...	...	...	...

GUTTA PERCHA.

While rubber has thus been passing through an experimental stage, gutta percha has been a more or less steady article of Philippine export, as shown by following statistics:

PHILIPPINE GUTTA PERCHA EXPORTS (CALENDAR YEARS 1904-1911).

Calendar Year.	United States. Lbs.	British East Indies. Lbs.	Other Countries. Lbs.	Total. Lbs.
1904.	6,255	535	...	6,255 535
1905.	50,899	4,782	...	50,899 4,782
1906.	228,604	30,905	...	228,604 30,905
1907.	295,367	26,895	8,543 650	303,910 27,545
1908.	84,993	6,381	...	84,993 6,381
1909.	155,491	22,470	198 45	155,689 22,515
1910.	217,182	38,409	7,221 847	224,403 39,256
1911.	750	66	113,704 18,783 22,419 1,260	136,873 20,109

In 1912 the total shipments for the fiscal year amounted to 91,645 pounds, valued at \$8,551.

Philippine gutta percha, though already largely exported, was first shipped to the American market in 1911.

As the figures quoted for 1910 separately and as part of the general table, cover respectively fiscal and calendar years, they do not in all points correspond, but they are sufficiently close to illustrate past and present conditions, in their relation to the future of rubber and gutta percha cultivation in the Philippines.

BOOMING BRAZIL.

Everyone who attended the Rubber Exposition was struck by the generous scale on which the Brazilian exhibit was planned. Evidently the government of Brazil was determined to make an impressive showing. This was only one illustration of the fact that Brazil has entered on an aggressive campaign of commercial activity. A recent Consular report calls attention to the fact that "during 1911 about \$150,000,000 of foreign capital was raised abroad for Brazilian loans and enterprises. The railway mileage of Brazil was increased by 469 miles; two new foreign banks and several branches of those already established were opened; three new steamship lines started in the South American trade, and the old lines added several large modern steamers of 12,000 tons to their fleets to meet the demands of the rapidly increasing passenger and freight traffic to Brazil from Europe; improved and additional port facilities at all the principal coast cities are being constructed; additional hydroelectric plants are being installed to meet the increasing demands for power and light; two of the most modern and comfortable hotels are in course of construction in Rio de Janeiro, and others are planned in the other cities; and houses, especially in São Paulo, are being erected as rapidly as material can be procured."

MAINTENANCE OF BRAZILIAN STANDARD.

Commenting upon the latest developments of artificial rubber, the "Revista do Associacão Commercial do Amazonas" of Manaus urges upon producers to provide a solid foundation to the Brazilian industry by maintaining a uniform type of fine rubber. This is the only type of rubber which, up to the present time, has not lost its ascendancy, and successfully opposes foreign types, but Asiatic grades, inferior in quality, are preferred in some cases, on account of the method of their preparation, their transparency and their freedom from impurities.

New Rubber Goods in the Market.

THE APSLEY SUCTION HEEL.

MANUFACTURERS of rubber footwear for men have given a great deal of attention in the past to making a shoe that would go on easily, as the average man is far too impatient to take very much time in putting on a rubber; but one trouble with a shoe that goes on very easily is the fact that it is

likely to come off very easily, and the sensations of the man who has crossed the street through the mud and finds when he gains the sidewalk that he has left one of his rubbers behind him in the road is not agreeable. The Apsley Rubber Co. has a new device called "The Apsley Suction Heel"

for keeping the rubbers on. The cut gives an illustration of it. It is a piece of rubber with three perforations placed inside of the heel of a self-acting shoe. These perforations create enough suction to counteract the suction of the mud on the outside of the shoe, and thus tend to hold the rubber snugly on the heel. The device has been patented in the United States, Canada and several European countries. [The Apsley Rubber Co., Hudson, Massachusetts.]

RUBBER HEADED NAILS.

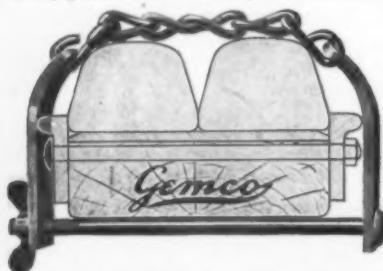
There are a thousand and one uses for rubber-headed nails. They are useful where there is any contact and a desire to escape the consequences of it. For instance, they are excellent articles to put in the bottom of chairs to keep them from mark-



ing hardwood floors; they do good service as bumpers where doors are likely to fly back and mar the wall. It is hardly necessary to enumerate the places where rubber-headed nails serve a worthy purpose. Here are five varieties put out by one of the German manufacturers.

AN EMERGENCY GRIP FOR MOTOR TRUCKS.

Here is an illustration of a chain grip for motor trucks recently put on the market by a Milwaukee manufacturing concern.



THE GEMCO MOTOR TIRE GRIP.

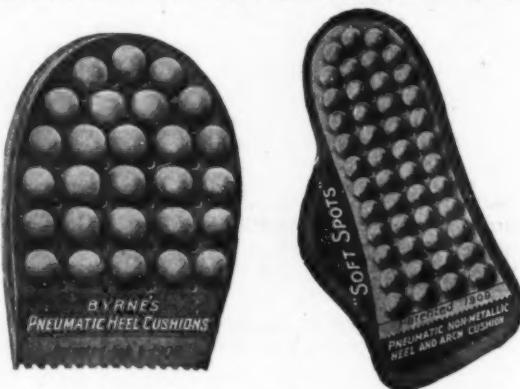
minimizes the wearing of the grip by rubbing against the curbing or car tracks. [The Garage Equipment Mfg. Co., Milwaukee, Wisconsin.]

It is made in ten different sizes and can be used on tires from 2-inch single up to 10-inch single—or 5-inch double. It will be noted that the chain simply covers the tread of the tire, the sides being protected by a solid piece. This greatly

reduces the wearing of the grip.

STANDING AND WALKING ON AIR.

Everybody can always walk on "Easy Street" if he will always walk on air, and that is not so very difficult to do in these days of pneumatic footwear devices. Here are two illustrations of pneumatic appliances to go inside the shoe. One is called "Soft-Spots Arch Cushion" and the other "Soft-Spots Heel Cushion."



The arch cushion extends from the back of the heel well under the arch of the foot, while the heel cushion is intended simply for the heel. Both of these devices are finished with a leather surface on the top next to the foot, while the bottom surface consists of a group of rubber cushions full of air. Obviously these "Soft-Spots" appliances make the step resilient and walking easy, and they are quite inexpensive, especially the heel cushion, which retails at 25 cents a pair. (Essex Rubber Co., Trenton, N. J.)

SPLASH GUARDS IN PARIS.

The question of splash guards in most of our American cities is not a very urgent one, as our streets are as a rule in a condition where muddy pools are impossible; but evidently there are

sections of London and Paris where splash guards are a *desideratum*, as both of those cities are more or less exercised over some device for preventing the vehicles in the street from throwing mud on the pedestrian on the sidewalk. The municipality of Paris, in conjunction with the Paris omnibus companies, has offered prizes for the best splash guards, the points to be taken into consideration being ease and simplicity of attachment, economy in construction and in use, weight and appearance. The test consists of an initial trial on a bus traveling twelve miles an hour, to be followed by a test of 100 consecutive hours, and a third trial to test the durability of the guard when brought in constant contact with the curbstones.

The accompanying cut shows one of the guards already in use in Paris. This cut cannot be commended as a work of art, but it was the best available, and it shows the splash guard and thus serves its purpose.



News of the American Rubber Trade.

FORTUNATE STOCKHOLDERS OF THE BOSTON WOVEN HOSE & RUBBER CO.

ON October 10, 1912, Henry B. Sprague, treasurer of the Boston Woven Hose & Rubber Co., sent out a circular to all the holders of common stock in that company, in which the following are the salient paragraphs, by which it will be noticed that the common stockholders are not only given the privilege of subscribing for an additional 25 per cent. of their present holdings at \$100 a share (the last previous sale having been \$231 per share), but are also given a cash dividend sufficient to cover this purchase.

"Pursuant to a vote lately passed by its Board of Directors, the Boston Woven Hose & Rubber Co. hereby offers to (1) those who shall be record holders of its common stock at the close of business October 21, 1912, other than the trustees of Boston Woven Hose Securities Co., and (2) those who shall then be record holders of certificates issued by said trustees representing common stock, two thousand (2,000) shares of additional common stock of Boston Woven Hose & Rubber Co. for subscription proportionately at one hundred dollars (\$100) per share, payable in cash on or before November 1, 1912.

"Under this offering there will accrue to you at the close of business October 21, 1912, the right to subscribe for one-fourth ($\frac{1}{4}$) as many additional shares of common capital stock of Boston Woven Hose & Rubber Co. as there shall then be shares of its already issued common stock or of common shares in Boston Woven Hose Securities Co. represented by trustees' certificates, as the case may be, standing in your name on the books of the company or of the trustees; but subscriptions in every case must be for whole shares.

"The privilege of subscribing will expire October 25, 1912. Subscriptions must be filed with the Beacon Trust Co., 20 Milk street, Boston, Massachusetts, not later than that day. They will be payable at the Beacon Trust Co.'s office in Boston, on or before November 1, 1912.

"The directors have also declared an extra dividend of twenty-five per cent. (25%) on the outstanding common stock, payable November 1, 1912, to stockholders of record at the close of business October 21, 1912. The amount of this dividend which may accrue to you as the record holder of common stock, or of trustees' certificates representing common stock, will be the same as the sum payable under your subscription, if you elect to take the stock to which you may be entitled; and the dividend may be used in payment of your subscription."

The treasurer is quoted as having made the following statement regarding the condition of the company: "The company has enjoyed the most profitable year in its history and the surplus, amounting to \$1,310,000 on September 30, 1912, has reached the point where it is almost 50 per cent. larger than the common stock outstanding, and it was felt by the directors that some of the surplus should be distributed among the stockholders. Capital outstanding consists of \$779,500 common and \$750,000 preferred. The preferred does not participate in the stock dividend or right to subscribe to new common shares, as it receives a fixed dividend of 6 per cent. annually. The stock dividend will make a very valuable right to stockholders."

"It is probable that the regular quarterly dividend on the common stock at the next declaration, December 15, will be 3 per cent. instead of 2½ per cent., thereby increasing the rate to 12 per cent. annually."

THE COLORADO RUBBER CO., DENVER, COLORADO.

The Colorado Rubber Co., Denver, Colorado, has recently moved into its new building, situated at 1825-1831 Lawrence street, where its facilities for handling business and making shipments are much increased over its previous quarters.

THE FEDERAL COMPANY DOUBLES ITS CAPITAL.

The Federal Rubber Manufacturing Co., of Milwaukee, on October 12, filed in the office of the secretary of state amendments to its articles of association, increasing its capital stock from \$1,000,000 to \$2,000,000—the increase consisting of 7 per cent. preferred stock, redeemable at 120. The increased capitalization has been made necessary by the growth of the company's business in the past year, and to provide for future expansion. In May, 1911, the Federal Rubber Manufacturing Co. purchased the plant of the Federal Rubber Co., at Cudahy, since which time the present company has made extensive additions to the plant, practically trebling the floor space. A modern office building has been erected. The mechanical equipment for the manufacture of automobile, motorcycle and bicycle tires, carriage and truck tires, and a full line of mechanical rubber goods is very complete.

Additional buildings and other improvements are under way, including a new power plant aggregating 3,500 boiler h. p., and a further addition to the office building. The total expenditures for improvements will represent approximately \$500,000, giving the company about 250,000 square feet of floor space, providing employment for a force of between 1,000 and 2,000 men and representing an approximate annual output capacity of \$5,000,000.

AN INCREASE OF CAPITAL STOCK.

At the regular monthly meeting of the board of directors of the McGraw Tire & Rubber Co., held at East Palestine, Ohio, October 9, it was unanimously voted to increase the capital stock of this company from \$100,000 to \$250,000. Acting upon the very favorable report of the year's business made by President E. C. McGraw, the directors voted a stock dividend of 50 per cent. plus a cash dividend of 10 per cent. The McGraw Tire & Rubber Co. have made several important additions to their plant this year, including the building of a very fine laboratory.

This company has also catered to the long felt want of its Eastern patrons, and has opened a selling branch at 1706 Broadway, New York City. The popularity of the Imperial tires and tubes has already guaranteed the McGraw Tire & Rubber Co. several large contracts for the season of 1913.

DAY AND NIGHT FOR TIRE PLANTS.

The United States Tire Co.'s factories will be operated during the coming winter on full summer schedule, which means night and day, with three shifts of workmen. The decision to continue this plan, begun last year, was reached at a recent conference between General Manager J. M. Gilbert and the company's factory managers. Last winter was the first time in the history of the tire industry that it was considered necessary to maintain a full summer working schedule throughout the so-called off season. The plan worked so satisfactorily that its continuation was decided upon. The company's four factories produced more than 1,250,000 tires during the year, and their 1913 output will be in excess of this number, the equipment of all of the factories having been increased. Mr. Gilbert estimates that there will be somewhere near 750,000 automobiles in use in the United States by the middle of next summer, and adds that his company aims to keep its production up to a figure equal to one-fourth of the tire demands of the country.

THEY SOLD THEIR EXHIBIT.

Everybody who attended the Rubber Exposition will remember the experimental outfit shown by the Turner, Vaughn & Taylor Co. The entire outfit was sold to the Rubber Regenerating Co., of Mishawaka, Indiana.

FISK TIRES ON A RACING CAR.

Erwin Bergdoll, who finished second in the Elgin free-for-all with his Benz car, reports remarkable service from the Fisk bolted-on tires, with which the car was equipped. The original front tires were not changed during the entire distance of 306 miles. The Fisk equipment was purchased at regular prices, replacing another make of tire put on the car at a 50 per cent. discount. Since the Elgin meet other well-known drivers have approached the Fisk Rubber Co. for a racing arrangement on Fisk tires. The Fisk company, however, offer drivers no special racing inducement, believing the real test of tire equipment is on the road in every-day use.

THE GOODYEAR CO. OFFERS PRIZES.

The Goodyear Tire and Rubber Co., of Akron, Ohio, has hit upon an excellent idea and one that should bring it a great deal of valuable information at an inconsiderable expense. It has offered prizes to the dealers handling its tires for the best true short story regarding their advertising experiences. The best story will be awarded a prize of \$10, and other contributions considered interesting and valuable will be awarded \$5 each and these contributions will be printed by the Dealers' Service Bureau of the Goodyear company, for the general benefit of its customers. The best advertising ideas do not, as a rule, come from theorists, but from practical experience, and the Goodyear company ought to get very good returns for its offer.

A CANADIAN TIRE PLANT IN THE UNITED STATES.

According to very good authorities, the Canadian Rubber Co. contemplates erecting a large factory for the manufacture of tires on the American side of the river, with the intention of making a special line of automobile tires for the American trade. This factory will be in addition to its present factory in Montreal.

TO MAKE TIRES IN ST. LOUIS.

Articles of incorporation were filed on October 14, 1912, by the St. Louis Tire and Rubber Co., with a capital of \$150,000, all paid. This company is composed of the following business men of St. Louis: Harry C. Barker, C. M. Skinner, Webster Groves, Alfred C. Einstein, William H. Glasgow, Roy F. Britton, C. C. Collins, and J. A. Swinehart, who has recently moved to that city from Akron, Ohio. They expect to use one of the buildings erected by the E. G. Lewis Publishing Co., in University City. The building is three stories high and covers a lot 177 x 40 feet, with a wing extension. It is the intention of the company to make a large addition to this building in the immediate future.

Mr. Swinehart, who has been for 15 years identified with the manufacture of tires, is active in the formation of the new company. He was associated with the Swinehart Tire Co., of Akron, and also the Firestone company.

He says that St. Louis is an ideal city for the location of a rubber tire manufacturing concern. "Its geographic situation could not be better," he told a St. Louis reporter, "for a plant of this nature. It is the gateway to the South and West. St. Louis has many advantages. Cheaper fuel and favorable shipping facilities make the city very attractive for a tire company. Labor, too, can be obtained readily in St. Louis. While at the start we probably will turn out but about 30 or 40 tires a day, within six months we expect to have a daily capacity of at least 300 tires."

Tires will be made for all classes of automobiles and trucks. Solid tires, block tires for trucks, and special tires for the electric coupé, operated largely by women, will be among those manufactured.

Mr. Morris Loeb, president of the Chemists' Club, died October 8, 1912, in his 50th year.

Mr. Wesley Wright, who for three years was Eastern sales manager of the International Specialty Co., is now acting in the capacity of sales manager of the shoe findings department of the Essex Rubber Co., Inc., of Trenton, with an office at 250 Broadway, New York. Among the articles he is pushing are "Soft-Spots" heel and arch cushions.

Mr. N. Lincoln Greene, known to the rubber clothing trade of the whole United States, was married on September 16, 1912, to Miss Adelaide Deming, daughter of Mrs. Edmund Orr Deming, of New York City.

Theodore W. Bassett, of the United States Rubber Reclaiming Co., ran part of his celebrated string of race horses at the Trenton fair on October 3, 4 and 5, and in the parlance of the turf, "cleaned up everything in sight."

MR. PAGE MAKES A CHANGE.

Wallace G. Page, who is well known in the rubber-tire industry, having had charge of the tire department of the Shawmut Tire Co., Boston, has recently associated himself with George P. Van Voorhis, in the American Motor Equipment Co., of 27 Haverhill street, Boston, jobbers and dealers in automobile tires and supplies. It will surprise none of his acquaintances to know that Mr. Page is doing very well in his new association, as he has always had the gift of making friends wherever he has been. He comes by his rubber proclivities naturally enough, as his father is a rubber man, having been connected for some time with the Chicago-Bolivian Rubber Co.

THE MARRIAGE OF C. G. ROEBLING'S DAUGHTER.

Miss Helen Roebling, daughter of Charles G. Roebling, of John A. Roebling Sons Co., Trenton, New Jersey, was married October 16 to Carroll Sargent Tyson, Jr., a well-known artist of Philadelphia. The ceremony was performed in the home of the bride, Trenton, by the Rev. Hamilton Schuyler, rector of Trinity Episcopal Church. Owing to the death of the bride's brother, Washington A. Roebling 2nd, on the ill-fated *Titanic*, the wedding guests were restricted to members of the two families.

THE MARRIAGE OF MR. FRED R. SAYEN.

Mr. Fred Richardson Sayen, secretary of the Mercer Rubber Company, of Hamilton Square, New Jersey, was married on September 25, 1912, to Miss Anne Jane Mellon, daughter of Mr. and Mrs. William A. Mellon, of Sea Girt, New Jersey, and Pine street, Philadelphia. The ceremony took place at St. Uriel's Episcopal Church, Sea Girt, New Jersey. Mr. and Mrs. Sayen visited the Rubber Exposition at New York on their honeymoon. They expect to reside at Hamilton Square, where Mr. Sayen has built a very handsome bungalow. Mr. Sayen is not only well known in rubber circles, but is a member of the Union League and the Art Club of Philadelphia, and the Merion Cricket Club of Haverford. He has traveled extensively and is widely known as a collector of pictures and objects of art.

REPRESENTS HIMSELF AS SON OF MR. PAUL.

The Davidson Rubber Co., of Boston, have sent out a warning to the trade against a young man who has been representing himself as the son of the company's president, Mr. Alexander M. Paul, and under the cloak of that representation has been trying to secure money from members of the trade. Mr. Paul has no son and this man is an impostor. He is described as about 30 years of age, 5 feet 8 inches tall, weighing about 150 pounds, with dark complexion, black hair, brown eyes; smooth shaven, dressed in dark clothes and wearing a black derby and black silk-lined overcoat, gray gloves and patent leather shoes.

THE FISH FOLK HAVE A CLAM-BAKE.

About the middle of September seventy-five or eighty of the branch managers and salesmen of the Fisk Rubber Co. of New York gathered at the factory in Chicopee Falls, Massachusetts, for a week's conference. For five days they attended strictly to the business of the company, laying their plans for the greatest output of tires in the history of the company; but on the sixth day they cast off all business burdens, relaxed their minds and proceeded to a nearby resort for a clam-bake. The accompanying illustration shows them with business burdens laid aside, with relaxed minds, and with no other thought except the impending onslaught on the appetizing and nutritious clam.



CLAM BAKE OF FISK RUBBER CO.

Unfortunately, this small reproduction does not bring out very distinctly that look of supreme satisfaction that in the original photograph is so conspicuous on every face.

NEW INCORPORATIONS.

Atlas Tire Co., Inc., October 15, 1912; under the laws of New York; authorized capital, \$10,000. Incorporators: Ralph W. Morrison, 181 West 73rd street; R. D. Placak, 318 West 52nd street, and F. F. Nichols, 135 Broadway—all of New York. Location of principal office, New York. To deal in automobile tires, etc.

Buffalo Resilio Co., September 16, 1912; under the laws of New York; authorized capital, \$25,000. Incorporators: Stafford D. Noble, Alexander D. Falck and Philip E. Lonergan—all of Buffalo, New York. Location of principal office, Buffalo, New York. To manufacture and deal in tire fillers.

Co-operative Rubber Co., September 12, 1912; under the laws of Maine; authorized capital, \$500,000. Incorporators: Horace Mitchell, H. A. Paul, M. G. Mitchell and Benjamin F. Bunker, all of Kittery, Maine. To manufacture, vend and deal in rubber boots, shoes and goods, and especially to buy, sell and deal in Dr. Edwards' "Cone Cushion Rubber Heels, soles, and half soles."

Cushionet Shoe Co., Inc., October 16, 1912; under the laws of New York; authorized capital, \$1,200. Incorporators: Louis M. Emerick, Fulton, New York; William R. Johnson and Harry S. Lee, both of Syracuse, New York. Location of principal office, Syracuse, New York. To deal in boots, shoes, rubber, etc.

The Dutch Rubber Co., August 14, 1912; under the laws of Ohio; authorized capital, \$1,250,000. Incorporators: E. L. Schnee, C. R. and I. A. Grant. Location of principal office, Akron, Ohio. To produce, reclaim, manufacture, etc., in rubber and rubber goods and other goods in which rubber may be a component part.

Economy Tire & Rubber Co., September 9, 1912; under the laws of Pennsylvania; authorized capital, \$5,000. Incorporators: Edward L. Craft, Harrisburg, Pennsylvania; Edward M. and

Benjamin F. Knupp—both of Penbrook, Pennsylvania. To manufacture and deal in rubber goods and products.

F. & M. Raincoat Co., August 24, 1912; under the laws of New York; authorized capital, \$10,000. Incorporators: Julius, Charles and Rosie Fried—all of 1696 Madison avenue, New York. Location of principal office, New York. To manufacture rubber coats and other garments.

The Fearless Tire Co., Ltd., September 14, 1912; under the laws of Canada; authorized capital, \$185,000. Incorporators: Jean Abel Michaud, Yvon Lamontagne, and Edmond Bouchard, all of Montreal, Canada. To manufacture tires.

Fibre Products Company, September 12, 1912; under the laws of Maine; authorized capital, \$1,000,000. Incorporators: Everett B. Cook, Danvers, Massachusetts; Edwin C. Fisher, Winchester, Massachusetts; Stephen C. Perry, Portland, Maine; and William A. Studley, Rockland, Massachusetts. To manufacture, buy, sell and deal in fiberized rubber and fiber and compounds thereof.

General Rim Company, September 30, 1912; under the laws of New York; authorized capital, \$150,000. Incorporators: Robert W. Ashley and Frank Oberkirch—both of 47 West 34th street, New York, and William Kaul, St. Mary's, Elk County, Pennsylvania. Location of principal office, White Plains, New York. To manufacture auto parts, rims, tires, etc.

The Gerhart Spring Tire Co., September 13, 1912; under the laws of Ohio; authorized capital, \$15,000. Incorporators: J. A. Gerhart, G. O. Balzman, and Casper Hopp. To manufacture vehicle wheel tires.

Hygrade Raincoat Company, September 16, 1912; under the laws of New York; authorized capital, \$3,000. Incorporators: Herman Greenberg, 5 Willett street; Harry Futterman, 570 East 143d street, and Meyer Goldstein, 600 West 146th street—all of New York.

The Koblitz-Kohn Company, October 1, 1912; under the laws of Ohio; authorized capital, \$50,000. Incorporators: Rudolph C. Koblitz, Adolph and Jacob B. Kohn. Location of principal office, Cleveland, Ohio. To buy and sell woolen rags, paper, rubber, etc.

Lavelle Rubber Co., August 27, 1912; under the laws of Illinois; authorized capital, \$25,000. Incorporators: John E. and Clara M. Lavelle and Otto Scheible. To manufacture, buy and sell rubber wearing apparel, bands, belting, hose packing, auto tires, etc.

Never Skid Manufacturing Co., Inc., October 7, 1912; under the laws of New York; authorized capital, \$50,000. Incorporators: Daniel E. Wing, George L. Lewis and Charles H. Stanton—all of 42 Broadway. Location of principal office, New York. To manufacture non-skid devices for automobile tires, etc.

Regal Raincoat Co., Inc., October 10, 1912; under the laws of New York; authorized capital, \$10,000. Incorporators: Harry L. Goldbaum, 67 Fifth avenue; Herman Hertz, 115 East 96th street, and J. Goldbaum, 67 Fifth avenue—all of New York. Location of principal office, New York. To deal in rubber clothing, etc.

Strohbeck & Briggs, Inc., September 23, 1912; under the laws of New York; authorized capital, \$100,000. Incorporators: Charles W. and Sophia Strohbeck, 234 Decatur street, and A. Lee Briggs, 655 East 18th street—all of Brooklyn, New York.

THE COMBINATION RUBBER MFG. CO.

The Combination Rubber Manufacturing Co., of Bloomfield, New Jersey, at its recent annual meeting of stockholders re-elected the same officers that served last year, with the exception of W. S. Hancock, who was made vice-president. F. L. Conover was made general manager. George B. Dickerson, formerly with the New Jersey Car Spring and Rubber Co., has charge of the company's offices in Bloomfield. The superintendent is W. A. Robbins, formerly with the Goodyear Tire and Rubber Co.

NEW AVERY CO. PREFERRED STOCK.

The Avery Co., of Peoria, Illinois, the oldest American manufacturer of agricultural implements, is offering \$1,000,000 of 7 per cent. cumulative preferred stock at \$100 per share and accrued dividend. The capitalization of the Avery Co., in addition to this issue of \$1,000,000 preferred, is made up of \$2,245,090 common stock and, according to a financial summary which accompanies the offer to the public, the total net assets of the Avery Co., above all debts, amount to \$3,420,269.49; liquid net assets, above all debts, \$1,816,956.31; average annual net earnings for four years, \$171,820.27, and net earnings, January 1, 1912, to June 10, 1912, \$256,860.47.

\$10,000,000 OF FISK CO. STOCK.

The Fisk Rubber Co., of Chicopee, Massachusetts, which was incorporated under the laws of Delaware, has been reincorporated under the laws of Massachusetts with a capitalization of \$10,000,000, consisting of 50,000 shares of preferred and 50,000 shares of common stock at a par value of \$100. The preferred stock is 7 per cent. cumulative to be given \$100 in case of liquidation and \$115 is redeemed. The incorporators are Harry T. Dunn, Harry G. Fisk and John C. Cole.

NO INTERRUPTION OF THE LOEWENTHAL CO.'S BUSINESS.

The fire which occurred recently at the New York office and warehouse of the Loewenthal Co., 481 Washington street, though it did some damage to materials, caused no interruption whatever in the regular course of the company's business.

A GROUP OF FIRESTONE SALESMEN.

Here is a group of one hundred or more of the salesmen of the Firestone Tire and Rubber Co., Akron, Ohio. They were photographed during a three days' conference held at the factory from October 16 to 19. It was a busy conference for, while the report of the company showed recent business considerably in excess of anything in the past, these salesmen are determined that next year shall break the record of 1912.

Several important announcements were made, chief among them being the announcement of the perfection of a tire for electric cars, which it is asserted will reduce battery consumption by at least 12 per cent. This is done by a scientific adjustment of resiliency and bearing surface. This new tire will be interchangeable on pneumatic rims whether standard clincher or quick detachable clincher. It belongs to the dual tread type.

TRADE NOTES.

The Canadian Consolidated Rubber Co., Berlin, Ontario, will soon ask bids for machinery to be installed in its new factory now being erected. T. H. Rieder is manager.

The Koblitz-Kohn Co., of Cleveland, Ohio, are successors to Koblitz, Kohn & Co., dealers in rubber scrap and other materials.

The Gould Commercial Co. removed their offices and crude rubber sample rooms on October 9, 1912, from 227 Fulton street to 12 Bridge street, corner Whitehall street, New York City.

Messrs. G. C. Krelinger, of Antwerp, have taken over the business of the well-known firm of G. Schmid & Co.

Philo F. Barnum, cashier of the New York Rubber Co., died Thursday, October 24, of heart disease. He was seventy-one years old, and lived in New York. He was a nephew of the late P. T. Barnum, and had been associated with the rubber company for forty-seven years.

On October 7 the United States Rubber Co. declared the regular quarterly dividends of 2 per cent. on the first preferred stock (including all outstanding preferred stock), 1½ per cent. on the second preferred, and 1 per cent. on the common, payable October 31, to stock of record October 11.

Early in October the Thomas Motor Car Co. filed a voluntary petition in bankruptcy in the United States District Court, in Chicago, scheduling liabilities of more than \$185,000. No statement of assets was filed beyond office fixtures. The principal creditor is the E. R. Thomas Motor Car Co., of Buffalo, N. Y., whose claim is nearly the amount of the entire indebtedness.

The Brazilian rubber crop for the gathering year just ended is officially stated at 28,206 tons, as against 27,064 tons last year and 30,064 tons in the year before.

A FIRE CAUSED BY NAPHTHA FUMES.

The fire which damaged materials and unfinished goods to the value of several thousand dollars at the factory of the Gordon Rubber Co., Canton, Ohio, is believed to have been started by a flash of lightning coming in over a wire and igniting naphtha fumes. The firemen were greatly hindered in their work by inhaling these fumes, but the damage to the building was not large, and the work of the company was in no way interfered with.



FIRESTONE TIRE SALESMEN.

THE INTERCONTINENTAL RUBBER CO.

THE annual report of the Intercontinental Rubber Co., issued under date of October 7, and covering the year ending July 31, 1912, shows the effect of the unsettled condition of affairs in Mexico—which is the chief field of this company's operation. There was a decrease of over one and a half million dollars—both in the gross and net profits of the company from the previous year, but owing to the smaller amount needed for dividends—no dividends on the common having been paid during the year covered by the report—the surplus account stands nearly \$400,000 higher than a year ago. A comparison of the chief items in the report for the two years 1911 and 1912 is here given:

	1912.	1911.	Increase.
Gross profits	\$1,190,095	2,714,255	*1,524,160
Expenses	81,136	73,737	7,399
Net profit	1,108,859	2,640,418	*1,531,559
Dividends	87,500	1,299,490	*1,211,990
Pr. and loss surplus.....	2,110,940	1,734,249	376,691

*Decrease.

The complete report of the company is as follows:

INTERCONTINENTAL RUBBER CO.

15 Exchange Place, Jersey City, New Jersey.

The directors submit herewith the balance sheet and statement of profits for the fiscal year ending July 31, 1912. These statements have been prepared and certified to by Messrs. Suffern & Son, certified public accountants of New York City. The year has been marked by a series of interruptions to operations caused by revolutionary disturbances, which conditions, we regret to state, still exist, offering serious difficulty to the free transaction of business in Mexico. The net operating profits for the year amounted to \$1,108,959.34. Sundry accounts representing investments in certain subsidiary companies, as well as expenses of guayule culture and world-wide explorations to the amount of \$644,768.51, have been charged off, as same are not considered of tangible value at the present time. Notwithstanding these charges and regular dividends on the preferred stock, the surplus account has been increased over the previous year by the amount of \$376,690.83.

The competition for guayule shrub has been unusually active and prices have ruled correspondingly high. This has been due in part to revolutions, but to greater extent to the decreased supply. It has been definitely determined that this shrub reproduces itself naturally, but not as rapidly as it has been harvested since the inception of the guayule rubber industry. It will therefore be necessary to regulate the consumption to the rate of regrowth in order to maintain the business on a permanent basis. Experiments are being conducted looking toward the artificial cultivation of guayule, but these have not progressed far enough to warrant a definite prediction as to the ultimate outcome.

While the company's earnings show a considerable decrease over last year, they were still largely in excess of requirements for interest on the preferred stock. The directors feel, however, that consideration of dividends on the common stock should be deferred until the situation in Mexico and the future supply of raw material become more assured. Meanwhile the company remains in a strong financial condition, having cash and quick assets in excess of quick liabilities, of nearly double the amount of outstanding preferred stock.

BY ORDER OF THE BOARD OF DIRECTORS,

WALTER DUTTON, *Secretary.*

October 7, 1912.

BALANCE SHEET—JULY 31, 1912.

ASSETS.

Investments in Stock of Merged and Subsidiary Companies:

By cash	\$ 2,090,321.59
By stock Issues	28,198,575.30
	<u>\$30,288,896.89</u>

Patents (Exclusive of Subsidiary Companies)

15,141.77

Treasury Stock (Fractional shares resulting from retirement of Preferred Stock)

2,500.00

Accounts and Notes Receivable, etc.:

Advances to Subsidiary Companies	1,310,215.32
Sundry Accounts	<u>13,469.16</u>
	1,323,684.48

Cash

2,198,054.30

\$33,828,277.44

LIABILITIES.

Capital Stock:

Common	\$29,031,000.00
Preferred	1,250,000.00
	<u>\$30,281,000.00</u>

Accounts Payable, Taxes Accrued, etc.:

Due Subsidiary Companies.....	220,015.56
Sundry Accounts	<u>4,231.14</u>
	224,246.70

Reserve Accounts

1,212,090.62

Surplus (as below)

2,110,940.12

\$33,828,277.44

SURPLUS ACCOUNT.

Surplus August 1, 1911.....

\$1,734,249.29

Gross Profits for year.....

1,190,095.41

Less:

Administration and General Expenses	81,136.07
	<u>1,108,959.34</u>

Net Profit for Year.....

\$2,843,208.63

Total

\$2,843,208.63

Charges against Surplus:

*Accounts charged off.....

\$644,768.51

Dividends paid on Preferred Stock

87,500.00

732,268.51

Surplus July 31, 1912.....

\$2,110,940.12

*Deferred Accounts Charged Off:

Balance of cost of Capital Stock of the Cia. Exploradora de Hule, S. A.....

\$220,400.00

Payments and Expenses re. Purchase of the Cia. Ganadera y Textil de Cedros, S. A.....

138,561.09

Explorations in Mexico.....

1,105.37

Guayule Culture Expense 1907-1908.....

39,649.24

Reduction in Capital Stock on the Rubber Exploration Company, representing expenses of exploration

145,000.00

Capital Stock of the Cia. Guayulera Mexicana de America

100,000.00

Note and Open Account of the above Company..

52.81

\$644,768.51

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 3, 1912.

No. 1,037,187. Vulcanizing-mold. A. Adamson, Akron, Ohio.
R. M. Hinman, Akron, Ohio.
1,037,311. Elastic tire. P. W. Pratt, Boston, Mass.
1,037,406. Sealing device for foot-ball bladders and the like. J. W. Albers, Hamburg, Germany.
1,037,412. Tire. H. O. Bartlett, Caldwell, Ohio.
1,037,414. Tire-fastening device. W. L. Bauer, Covington, Ky.
1,037,448. Rubber boot. J. T. Crowley, assignor to The Beacon Falls Rubber Shoe Co., both of Beacon Falls, Conn.
1,037,482. Tire-case. C. F. Hopewell, Newton, Mass.
1,037,677. Tire-armor. J. R. Smith, Flagstaff, Ariz.
1,037,686. Tire. T. Toomey, Scranton, Pa.

ISSUED SEPTEMBER 10, 1912.

1,037,943. Aero safety device. W. H. Lowry, Jacksonville, Fla.
1,037,954. Tire-puncture finder. F. Miller, Bellevue, Ky.
1,037,955. Tire-puncture finder. F. Miller, Bellevue, Ky.
1,037,959. Parachute Device. L. Miller, Chicago, Ill.
1,038,023. Closure and protecting device for bottles. M. Switzer, New York.
1,038,042. Hat-protector. L. Wener, New York.
1,038,143. Clencher-tire and securing-lug therefor. M. R. Hutchinson, Summit, N. J.
1,038,144. Rim and tire for vehicle-wheels. M. R. Hutchinson, Summit, N. J.
1,038,235. Tire. M. Toso, San Bruno, Cal.
1,038,252. Reinforced grid resistance. H. J. Wiegand, assignor to The Cutler Hammer Mfg. Co.—both of Milwaukee, Wis.
1,038,314. Pneumatic tire. F. Doherty and W. J. Robbins, Wellington, New Zealand.
1,038,351. Waterproof bag. W. J. Graham, Brooklyn, N. Y.
1,038,360. Tire-protector. R. C. Harris, Pittsburgh, Pa.
1,038,372. Detachable rim for vehicle wheels. M. R. Hutchinson, Summit, N. J.
1,038,441. Tire of vehicle-wheels. F. Rose, Liverpool, England.
1,038,507. Elastically-connected surfaces for insuring the stability of air-ships, aeroplanes, and submarine boats. G. A. Grocco, and O. Ricaldoni, Rome, Italy.

Trade Marks.

58,697. Jackson Eno Rubber Co., Los Angeles, Cal. The company's name encircled by a star. For rubber tires.
63,083. Vorhees Rubber Mfg. Co., Jersey City, N. J. The word *Hurricane*. For vacuum hose.
63,084. Vorhees Rubber Mfg. Co., Jersey City, N. J. Diamond trade mark. For vacuum hose.
63,086. Vorhees Rubber Mfg. Co., Jersey City, N. J. The word *Typhoon*. For vacuum hose.

ISSUED SEPTEMBER 17, 1912.

1,038,558. Tea and coffee pot and the like. A. F. Gardner, Leicester, England.
1,038,600. Apparatus for delivering and receiving mail. W. Kraenner, Ripley, Ohio.
1,038,642. Washer for glass gages, etc. Edward L. Perry, Jr., Paterson, N. J.
1,038,777. Device for threading shuttles. C. Miller, assignor to M. Lenahan—both of Providence, R. I.
1,038,801. Means for indicating the deflation of pneumatic tires. F. H. Treat, Cleveland, Ohio.
1,038,891. Tire-filler. W. D. Howser and A. M. Woltz, Greensboro, N.
1,038,950. Process of manufacturing hot vulcanized froth from india-rubber, gutta-percha and balata. F. Pfeumer, Dresden, Germany.
1,038,960. Syringe. G. M. Rhone, Brownwood, Tex.

ISSUED SEPTEMBER 24, 1912.

1,039,305. Shock-absorber. G. C. Martin, Los Angeles, Cal.
1,039,306. Detachable rubber heel. A. McDonald, Central City, S. D.
1,039,316. Method of rendering the joints of the casemented port-holes of war-ships water-tight. M. Noack, Friedenau, near Berlin, Germany.
1,039,323. Apparatus for vulcanizing tires. P. Roussillon, Argenteuil, France, assignor to Societe A. Olier & Cie, Clermont-Ferrand, France.
1,039,334. Bath-cushion. W. C. Trick, Mount Vernon, Ohio.
1,039,409. Resilient heel for shoes. A. Jenczyk, Chicago, Ill.
1,039,427. Vehicle-tire. E. J. McCarty, assignor to W. R. Dame—both of Clinton, Mass.
1,039,437. Shoe. G. L. Pierce, Brooklyn, N. Y.
1,039,538. Elastic wheel. L. A. Hubert, Troyes, France.
1,039,591. Hypodermic or other syringe. W. de Courcy Prideaux, Weymouth, England.
1,039,665. Tire-protector. A. G. Edlund and A. Leafgren, Axtell, Neb.
1,039,671. Tire-shield. C. R. Ragsdale, St. Louis, Mo.

Designs.

43,033. Automobile-tire. T. P. Clark, Akron, Ohio.
43,047. Elastic tire for vehicles. F. H. Jones, Andover, Mass.

Trade Marks.

56,175. Continental Rubber Works, Erie, Pa. Picture of single tube rubber tire. For single tube rubber tires.
58,491. Page Belting Co., Concord, N. H. Picture of a crown. For rubber hose, etc.
63,504. Hood Rubber Co., Boston, Mass. The word *Arrow*. For rubber tires.
64,941. Tower Mfg. Co., New York. The word *Temco*. For rubber bands, etc.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of these listed below was in 1911.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 4, 1912.]
11,530. Wheel tires. S. T. B. Saunderson, Harristown, Brannockstown, Co. Kildare, and T. D. Kelly, 9 Avenue Road, Southend, Essex.
11,544. Extracting resins from rubber. Soc. Internationale Asia-Caoutchouc (Soc. Anon.) 10, Place de Louvain, Brussels.
11,610. Telephones. G. A. Nussbaum, 29 Ludgate Hill, London.
11,624. India-rubber vulcanizing, etc. F. Pfeumer, 48 Marienstrasse, Dresden, Germany.
11,667. Molding india-rubber. T. Gare, 230 Bristol Road, Birmingham.
11,673. Vehicle wheels. T. H. Rushton, 158 Grimsby Road, New Cleethorpes, Lincolnshire.
11,746. Vehicle wheels. Atlas Non-Puncture Inner Case Syndicate, 124 High street, Kensington, London.
11,793. Boots, heels, etc. R. S. Slatkowsky, 45 Bazarnia, Odessa, Russia.
11,801. Vehicle wheels. W. J. Hawthorn, 2 Brogden Grove, Sale, near Manchester, and T. Hartley, 5 Regent street, Chorlton-on-Medlock.
11,809. L. L. Fuller, Strathcona, Alberta, Canada.
11,817. Raising and forcing liquids; compressing gases. H. H. Humphrey, 38 Victoria street, Westminster.
11,856. Soothing teats. S. M. Taylor, 10 Crooked Lane, Birmingham.
11,863. Flower holders. J. A. Medland, 26 North View, Westbury Park, Bristol.
11,927. Whips, umbrellas, sticks, etc. L. G. Roberts, 29 Egerton Terrace, Kensington, London.
12,085. Inflating tires, etc. F. J. Beorchia, 15 Rue de Rome, Paris.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 11, 1912.]

12,135. Telephones. S. A. Bhisey, 11 Prebend Mansions, High Road, Chiswick, London.
12,231. Wheel tires. W. E. Carmont, 55 Queen's Road, Richmond, Surrey.
12,247. Puncture-repair outfit. C. H. Harris, Great College street, Camden Town, and W. F. Freeman, 8 Bath street, City Road—both in London.
12,338. Tapping rubber trees, etc. F. Esser & Co., 16 Bergstrasse, Hamburg, Germany.
12,375. Deadening shocks in aeronautics. J. F. Benton, Ford Cottage, Pinkneys Green, Maidenhead.
*12,452. Wheel tires. N. J. Busby, 50 Nichols street, Chelsea, Mass., U. S. A.
*12,454. Tire valves. W. W. Potter, Pawtucket, Rhode Island, U. S. A.
*12,459. Wheel tires. J. Anthony, Attleboro, Massachusetts, U. S. A.
*12,466. Wheel tires. F. T. Roberts, 210 N. 78th street, New York, U. S. A.
12,469. Wheel tires. M. Bovy, 244 Avenue de la Couronne, Ixelles, Brussels.
*12,477. De-vulcanizing india-rubber. W. W. Wildman and J. Christy, Akron, Ohio, U. S. A.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 18, 1912.]

12,727. Violins, etc. L. F. Rampal, 41 Elgin avenue, Maida Vale, London.
12,729. Sole protectors for boots, etc. F. Wette, 3 Kornpfortstrasse, Coblenz-on-Rhine, Germany.
12,806. Filling casks, etc. P. Robinson (trading as Morton & Co.), Trent Works, Burton-on-Trent.
12,810. Compressed-air engine and compressors. R. Sutcliffe, Harbury, near Wakefield, Yorkshire.
12,827. Rubber type for printing, etc. G. S. Wride, 95 Ashley Road, Bristol.
12,837. Moulding rubber, etc. H. Berry & Co., Croydon Works, Hunslet, Leeds, and J. W. Thorley, Ivorglen, Slattocks, Castleton, Manchester.
12,844. Stocking-suspenders. P. Pugniet, 12 Rue des Rigoles, Paris.

*12,879. Wheel tires. C. E. Eckrode, 9 Sixth avenue, Highland Park, New Brunswick, N. J., U. S. A.

12,893. Printing. L. A. Brilla, 89 Brook street, Kennington, and W. Andrews, 5 Belsize Park—both in London.

12,899. Toe clips for cycles. G. Grund, 4 Bruce Grove, Tottenham, London.

12,902. Removing dust from coal mines, etc. C. Rollin, Byton Hall, East Jarrow-on-Tyne.

12,917. Book markers. W. Barney, 15 Watling street, London.

12,943. Wheel tires. W. G. Nelson, 92 Stratford street, Maryhill, Glasgow.

13,009. Testing india-rubber, etc. L. Schopper, 27 Arndtstrasse, Leipzig, Germany.

13,170. Sweatbands for hats. M. Thiry, 43 Rue de Liverpool, Brussels.

13,204. Inflating pumps. H. Feilchenfeld, 37a Sebastianstrasse, and F. Kindermann, 71 Sebastianstrasse—both in Berlin.

13,233. Wheel tires. J. Marx, Konigstein, Taunus, Germany.

13,239. Rubber soles for boots. A. Millet, 98 Rue Leyteire, Bordeaux, France.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 25, 1912.]

13,421. Marine governors. J. McIlvenna, North Bay, Ontario, Canada.

13,422. Milking cows. C. E. Potter, 268 Poplar Plains Road, Toronto, Canada.

13,457. Tread bands. D. Marshall, 30 Winchcombe street, Cheltenham, Gloucestershire.

*13,566. Impregnated yarns and fabrics. W. H. Underwood, corner Fifth avenue and 41st street, New York, U. S. A.

*13,572. Stocking-suspenders. E. L. Scott, 57 Exchange street, Portland, Maine, U. S. A.

13,676. Electric insulators. F. Clouth, Rheinische Gummiwarenfabrik, Nippes, near Cologne, Germany.

*13,698. Fire-extinguishing apparatus. E. M. Lawrence, 7 Water street, New York, U. S. A.

13,715. Thermo-electric batteries. H. Suchting, 18 Humboldt-Strasse, and F. Oloff, 47 Parkallee—both in Bremen, Germany.

13,742. Looms. B. Elmendorf, and J. Gabler, Isselhurst, Westfalia, Germany.

13,807. Vehicle wheels. E. J. Clark, "Cla-Jen" Whips Cross Road, Leytonstone, London.

13,823. Coagulating latex. S. Ingrams, Walton-on-the-Naze, Essex, and F. E. S. Lindley, Godstone Place, Godstone, Surrey.

13,824. Coagulating latex. S. Ingrams, Walton-on-the-Naze, Essex, and F. E. S. Lindley, Godstone Place, Godstone, Surrey.

13,826. Vehicle wheels. Count L. de Choiseul-Gouffier, Plotole, Kawno, Russia.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

440,305 (January 27, 1912). D. L. A. Grosclaude. System of compartments for pneumatic automobile tires.

441,410 (February 20). Weed Chain Tire Grip Co. Repairing of pneumatic tires.

440,418 (February 20). A. Sorsi. Elastic tire for automobiles, motorcycles, bicycles and other vehicles.

440,428 (February 21). L. Michel. Tires for vehicles.

440,480 (February 22). W. G. Skew. Improvements in anti-skid treads for pneumatic tires.

440,584 (February 26). A. Robertshaw. Improvements in covers for pneumatic tires.

440,704 (May 9, 1911). A. E. Thiebault. Elastic tires.

440,717 (February 28, 1912). Bourne Rubber Co., Ltd. Process for treating rubber, vulcanite, or analogous substances and for making certain articles out of them.

440,833 (March 2). A. E. Wale. Improvements in manufacture of vehicle tires.

440,888 (February 28). A. Charvieux. Demountable tire for cycles and other vehicles.

440,940 (February 10). F. A. Nolan. Improvements in rubber heels.

440,941 (February 12). C. M. Metsch. Improvements in repair of pneumatic tires.

440,967 (February 24). L. G. Queval. Anti-skid appliance for pneumatic automobile and other tires.

441,013 (March 6). J. Savoie. Tire protectors.

441,075 (March 7). G. W. Bedam. Improvements in elastic tires.

441,122 (March 8). Dunlop Rubber Co., Ltd. Improvement in manufacture of pneumatic tires and covers.

441,134 (March 9). Maubon & Cané. Tire protecting appliance.

441,204 (March 11). Badische Anilin und Soda Fabrik. Production of substances resembling vulcanized rubber.

[NOTE.—Printed copies of specifications of French patents can be obtained from R. Robet, Ingénieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE GERMAN EMPIRE.

PATENTS ISSUED (with Dates of Validity).

251,216 (May 13, 1911). Process for production of isoprene. Badische Anilin-und Soda-Fabrik, Ludwigshafen.

251,217 (January 11, 1911). Process for production of erythrene. Farbenfabriken, vorm. Fried. Bayer & Co., Elberfeld.

250,690 (September 12, 1909). Process for production of artificial rubber. Farbenfabriken, vorm. Fried. Bayer & Co., Elberfeld.

250,920 (August 8, 1911). Process for manufacture of a product suitable as a substitute for rubber. Farbenfabriken, vorm. Fried. Bayer & Co., Elberfeld.

250,961 (June 7, 1910). Balloon material of woven fabric, paper and rubber. Julius Rund, Goethe Str. 10, and Max Samson, Westend Str. 3, Frankfurt-a. M.

251,260 (June 1, 1910). Centrifugal separator of rubber from fluids containing same. Empire Cream Separator Co., Bloomfield, New Jersey, U. S. A.

251,613 (October 25, 1911). Manufacture of marbled artificial rubber. Dr. Alexander & Posnansky, Köpenick, near Berlin.

251,728 (March 30, 1911). Process for smoking latex. Robert Derry, Singapore.

251,370 (March 3, 1911). Production of substances resembling rubber. Badische Anilin und Soda Fabrik, Ludwigshafen, Germany.

251,371 (August 7, 1910). Production of rubber substitutes. Chemische Fabrik Flörsheim, Dr. H. Noerdlinger, Flörsheim a. M.

THE KINGDOM OF BELGIUM.

PATENTS PUBLISHED.

246,696 (1912). F. Frank and E. Marckwald, Berlin. Extraction of rubber from latex.

246,826 (1912). Rauhguumi Verwertungs Gesellschaft m. b. H., Hamburg. Process for manufacturing wrinkled rubber.

247,139 (1912). A. Pinel, Le Houme, France. Manufacture of gum or mucilage from seeds of carob tree.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending October 26:

COMMON STOCK, \$25,000,000.

[The treasury of a subsidiary company holds \$1,334,000.]
Last Dividend, October 31, 1912—1%.

Week September 28	Sales 21,200 shares	High 55½	Low 54
Week October 5	Sales 8,100 shares	High 55½	Low 54
Week October 12	Sales 7,220 shares	High 55	Low 52½
Week October 19	Sales 2,600 shares	High 53½	Low 52½
Week October 26	Sales 4,425 shares	High 53	Low 50½

For the year—High, 67½, May 21; Low, 45½, February 1.
Last year—High, 48½; Low, 30½.

FIRST PREFERRED STOCK, \$39,824,400.

Last Dividend, October 31, 1912—2%.

Week September 28	Sales 2,000 shares	High 111	Low 109½
Week October 5	Sales 1,100 shares	High 112	Low 111
Week October 12	Sales 1,100 shares	High 112	Low 109½
Week October 19	Sales 1,300 shares	High 109½	Low 109
Week October 26	Sales 1,230 shares	High 109	Low 107

For the year—High, 116, May 20; Low, 105%, July 25.
Last year—High, 115½; Low, 104.

SECOND PREFERRED STOCK, \$9,965,000.

Last Dividend, October 31, 1912—1½%.

Week September 28	Sales 400 shares	High 81½	Low 79½
Week October 5	Sales 600 shares	High 81½	Low 81½
Week October 12	Sales 300 shares	High 81½	Low 81½
Week October 19	Sales ... shares	High ...	Low ...
Week October 26	Sales 100 shares	High 78½	Low 78½

For the year—High, 85½, May 21; Low, 75, January 23.
Last year—High, 79; Low, 66.

SIX PER CENT. TRUST GOLD BONDS, \$18,000,000.

Outstanding of the 1908 issue of \$20,000,000.

Week September 28	Sales 30 bonds	High 103½	Low 103½
Week October 5	Sales 11 bonds	High 103½	Low 103½
Week October 12	Sales 11 bonds	High 103½	Low 103½
Week October 19	Sales 73 bonds	High 103½	Low 103
Week October 26	Sales 17 bonds	High 103½	Low 103½

For the year—High, 105, February 24; Low, 103, October 19.
Last year—High, 105; Low, 101½.

CANADIAN IMPORTS OF CYCLES AND MOTORS.

THE following statistics, for the three months April-June, for three years, are supplied by the Canadian department of trades and commerce:

BICYCLES.

	1910.	1911.	1912.
From Great Britain	\$38,927	\$59,639	\$66,442
From United States	19,480	27,817	20,504
From Other Countries	43	....	15

Total \$58,450 \$87,456 \$86,961

AUTOMOBILES.

	1910.	1911.	1912.
From Great Britain	\$65,406	\$111,032	\$172,570
From United States	1,273,057	2,080,592	3,637,715
From France	35,473	13,280	27,861
From Other Countries	5,451	....	....

Total \$1,379,387 \$2,204,904 \$3,838,146

Review of the Crude Rubber Market.

After the fall in London price of Pará, in the first half of September, the level reached has since been more or less maintained. During the latter half of September the price fluctuated between 4s. 7d. and 4s. 8d. In the first half of October it varied between 4s. 6½d. and 4s. 7½d.; reaching on 26th (at time of writing) 4s. 6d.

While Pará rubber thus fell 1½d. in the last five weeks, plantation rubber showed a decline for pale crepe within the same period of 4d. per pound, from 4s. 6½d. to 4s. 2½d. On August 1 Pará and plantation had both stood at 4s. 10½d., while at time of writing (October 26) they were respectively at 4s. 6d. and 4s. 2½d.

Since last report there have been three plantation auctions in London. The sale of September 24 to 26 comprised 920 tons. Prices in general showed a falling off to the extent of 2d. per pound, while smoked sheet commanded full rates. Nearly the entire quantity was sold. At the auctions of October 8 to 10 800 tons were offered and almost all sold at a further decline of 2d. A firmer tone prevailed towards the close.

The sale commencing October 22 (of which cable reports to hand), included 900 tons. While prices opened at a new reduction of 2d. per pound, a recovery to the extent of ½d. subsequently took place.

General opinion is to the effect that the fall in prices of plantation rubber has operated its own remedy by inducing buyers to act freely. Higher prices are being paid for later delivery than are current for spot rubber of the same grades.

At Antwerp on September 25 the offerings included 344 tons of Congo, of which 141 were sold at an average fall of 10 per cent., in addition to 158 tons plantation, of which 131 were placed at an average reduction of 8 per cent. On September 24, 95 tons (principally Congo) were offered at Havre, of which 20 tons were sold.

On September 30 at Amsterdam, out of 65 tons offered, 51 were sold at 5 to 7 per cent. reduction. For the sale of October 18, about 74 tons had been declared, chiefly *Hevea* and *Ficus*, three fourths of which changed hands at a fall of 5 to 6 per cent.

On October 11, 55 tons were offered at Rotterdam. The 12 tons of *Hevea* included were nearly all sold at an average of 5 per cent. below valuations, while a large proportion of the 37 tons of Congo was bought in.

NEW YORK QUOTATIONS.

FOLLOWING are the quotations at New York for Pará grades, one year ago, one month ago, October 30—the current date:

	Nov. 1, '11.	Oct. 1, '12.	Oct. 30, '12.
Islands, fine, new	97@ 98	106@107	99@100
Islands, fine, old	100@101	109@110	
Upriver, fine, new	104@105	109@110	105@106
Upriver, fine, old	106@107	118@119	
Islands, coarse, new	57@ 58	55@ 56	54@ 55
Islands, coarse, old	none here		
Upriver, coarse, new	90@ 91	84@ 85	83@ 84
Upriver, coarse, old	none here		
Cametá	59@ 60	59@ 60	55@ 56
Caucho (Peruvian) ball	89@ 90	84@ 85	82@ 83
Caucho (Peruvian) sheet	none here		

PLANTATION PARA.

Fine smoked sheet	114@115	114@115	108@109
Fine pale crepe	115@116	107@108	102@103
Fine sheets and biscuits	112@113	108@109	100@101

CENTRALS.

Esmeralda, sausage	82@ 83	82@ 83	77@ 78
Guayaquil, strip	none here		
Nicaragua, scrap	81@ 82	81@ 82	77@ 78
Panama	none here		
Mexican plantation, sheet	none here		
Mexican, scrap	82@ 83	80@ 81	76@ 77

Mexican, slab	none here	.....	.....	.....
Mangabeira, sheet	58@ 63	58@ 59	57@ 58	
Guayule	45@...	45@...		
Balata, sheet	85@ 86	85@ 86		
Balata, block	53@ 54	56@ 57		

AFRICAN.

Lopori, ball, prime	98@ 99	107@108	96@ 97
Lopori, strip, prime	none here	100@101	87@ 88
Aruwimi	94@ 95	104@105	
Upper Congo, ball, red	90@ 91		
Ikelemba	none here		
Sierra Leone, 1st quality	86@ 87	93@ 94	
Massai, red	89@ 90	95@ 96	95@ 96
Soudan, Niggers	none here		
Cameroon, ball	65@ 66	70@ 71	
Benguela	65@ 66	74@ 75	
Madagascar, pinky	76@ 77		
Accra, flake	28@ 29	26@ 27	25@ 26

EAST INDIAN.

Assam	none here		
Pontianak	5½@...	6½@6½	6½@...
Borneo	none here		

Late Pará cables quote:

Per Kilo.	Per Kilo.
Islands, fine	Upriver, fine 53½
Islands, coarse	Upriver, coarse 38½
Latest Manáos advices:	Exchange 16 5/16d.
Upriver, fine	5½
Upriver, coarse	3½
	Exchange 16 5/16d.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total, 1910.
	Fine and Medium.	Total, 1912.	Total, 1911.	
Stocks, August 31, tons	159	24	183	370
Arrivals, September	852	448	1,300	1,340
Aggregating	1,011	472	1,483	1,710
Deliveries, September	864	438	1,302	1,388
Stocks, September 30	147	34	181	322

	Pará.			England.		
	1912.	1911.	1910.	1912.	1911.	1910.
Stocks, August 31, tons	1,355	3,010	585	395	1,310	1,275
Arrivals, September	2,370	2,515	1,870	725	425	1,000
Aggregating	3,725	5,525	2,455	1,120	1,735	2,275
Deliveries, September	2,305	2,835	1,595	740	880	697
Stocks, September	1,420	2,690	860	380	855	1,578

World's visible supply, September 30	tons	2,956	5,305	3,350
Pará receipts, July 1 to September 30		5,155	4,960	4,830
Pará receipts of caucho, same dates		1,000	910	1,430
Afloat from Pará to United States, Sept. 30		390	978	347
Afloat from Pará to Europe, September 30		585	460	390

Rubber Stock at Para.

On May 31 the stock had increased, but had receded by June 30; and had again fallen off on July 31. Large sales by the syndicate materially reduced the stock by the end of August, from which point it had slightly increased by September 30.

February 28, 1911	tons	3,787	December 31	tons	2,675
March 31		4,214	January 31, 1912		3,370
April 30		5,104	February 29		3,240
May 31		5,350	March 31		2,730
June 30		4,545	April 30		2,770
July 31		3,884	May 31		2,995
August 31		3,450	June 30		2,685
September 30		3,102	July 31		2,300
October 31		3,320	August 31		1,355
November 30		3,050	September 30		1,420

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

SEPTEMBER 21.—By the steamer *Napo*, from Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Henderson & Korn	41,900	3,200	17,200	63,300	126,600
Arnold & Zeiss	10,000	4,300	27,700	.....	42,000
New York Commercial Co.	2,500	11,900	8,400	22,800	42,700
H. A. Astlett	13,200	.....	4,500	1,000	18,700
Total	65,100	10,000	61,300	72,700	210,100

SEPTEMBER 24.—By the steamer *Christopher*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Arnold & Zeiss	323,300	39,400	113,100	21,400	497,200
Henderson & Korn	45,500	4,500	38,900	21,600	110,500
New York Commercial Co.	67,800	56,600	26,200	700	151,300
General Rubber Co.	30,000	1,800	.....	.....	31,800
Meyer & Brown	.....	.....	7,300	17,400	24,700
G. Amsinck & Co.	6,800	400	3,300	1,100	11,600
Total	473,400	102,700	188,800	62,200	827,100

OCTOBER 4.—By the steamer *Denis*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	181,700	26,100	30,500	200	238,500
Arnold & Zeiss	87,900	19,600	63,400	41,800	212,700
Henderson & Korn	84,300	10,200	67,300	.....	161,800
Meyer & Brown	44,000	9,900	18,900	7,300	80,100

De Lagotellerie Co.	12,100	1,100	15,200	.....	15,200
Ed. Maurer	.....	.....	1,300	.....	14,500
Robinson & Co.	.....	.....	10,300	.....	10,300
Hagemeyer & Brunn	.....	600	.....	9,400	10,000
Total	410,000	67,500	206,900	58,700	743,100

OCTOBER 5.—By the steamer <i>Tobajo</i> , from Pará:	
Meyer & Brown	30,600
Arnold & Zeiss	1,800
L. Johnson & Co.	13,300
De Lagotellerie & Co.	11,100
Henderson & Korn	5,400
Total	60,400

OCTOBER 15.—By the steamer <i>Dunstan</i> , from Manáos and Pará:	
Arnold & Zeiss	68,500
New York Commercial Co.	144,500
General Rubber Co.	70,200
Henderson & Korn	51,300
Meyer & Brown	5,000
Robinson & Co.	36,000
H. A. Astlett Co.	21,800
De Lagotellerie & Co.	22,400
G. Amsinck & Co.	6,800
Edward Maurer	9,300
Total	435,800

OCTOBER 15.—By the steamer *Dunstan*, from Manáos and Pará:

Arnold & Zeiss	68,500	28,100	107,600	97,400	301,600
New York Commercial Co.	144,500	45,600	31,200	14,700	236,000
General Rubber Co.	70,200	10,800	63,000	700	144,700
Henderson & Korn	51,300	26,300	8,600	25,900	112,100
Meyer & Brown	5,000	300	44,200	9,600	59,100
Robinson & Co.	36,000	600	3,600	.....	40,200
H. A. Astlett Co.	21,800	2,500	6,600	.....	30,900
De Lagotellerie & Co.	22,400	2,100	1,800	300	26,600
G. Amsinck & Co.	6,800	.....	2,600	3,400	12,800
Edward Maurer	9,300	700	2,600	.....	12,600
Total	435,800	117,000	271,800	152,000	976,600

PARA RUBBER VIA EUROPE.

POUNDS.

SEPTEMBER 16.—By the *Allianca*=Mollendo: W. R. Grace Co. (Fine)..... 4,500SEPTEMBER 18.—By the *Coronia*=Liverpool: Arnold & Zeiss (Fine)..... 85,000

Arnold & Zeiss (Caucho)..... 95,000

General Rubber Co. (Fine)..... 11,500

Raw Products Co. (Fine)..... 11,000

SEPTEMBER 21.—By the *Baltic*=Liverpool: New York Commercial Co. (Fine)..... 75,000SEPTEMBER 21.—By the *Colon*=Mollendo: W. R. Grace & Co. (Fine)..... 2,000

W. R. Grace & Co. (Caucho)..... 5,000

SEPTEMBER 21.—By the *Kaiserin Auguste Victoria*=Hamburg: Ed. Maurer (Fine)..... 13,500

W. L. Gough Co. (Fine)..... 5,500

Arnold & Zeiss (Coarse)..... 2,000

OCTOBER 1.—By the *Carmania*=Liverpool: New York Commercial Co. (Fine)..... 77,000

Arnold & Zeiss (Fine)..... 45,000

Wallace L. Gough Co. (Fine)..... 4,500

OCTOBER 9.—By the *Allianca*=Mollendo: New York Commercial Co. (Fine)..... 5,000OCTOBER 11.—By the *Patricia*=Hamburg: Ed. Maurer (Fine)..... 30,000OCTOBER 14.—By the *Adriatic*=Liverpool: Raw Products Co. (Fine)..... 5,500

Rubber Trading Co. (Fine)..... 4,500

OCTOBER 14.—By the *Caronia*=Liverpool: Arnold & Zeiss (Fine)..... 22,500

New York Commercial Co. (Fine)..... 5,500

OCTOBER 15.—By the *Chicago*=Havre: Arnold & Zeiss (Fine)..... 8,000OCTOBER 19.—By the *Baltic*=Liverpool: General Rubber Co. (Coarse)..... 11,000

Meyer & Brown (Caucho)..... 18,000

SEPTEMBER 21.—By the *Allianca*=Colon: C. H. Rossbach & Bros. (Fine)..... 50,000

A. Hirsch & Co. (Fine)..... 15,000

For Exposition..... 7,000

SEPTEMBER 28.—By the *Monterey*=Vera Cruz: Graham, Hinkley & Co. (Fine)..... 5,000

Laurence Johnson & Co. (Fine)..... 3,000

Maitland, Coppell & Co. (Fine)..... 2,500

Chas. T. Wilson (Fine)..... 2,000

H. Marquardt Co. (Fine)..... 2,000

J. W. Wilson & Co. (Fine)..... 1,500

G. Amsinck & Co. (Fine)..... 1,500

SEPTEMBER 28.—By the *Advance*=Colon: J. Sambrada & Co. (Fine)..... 10,000

Laurence Johnson & Co. (Fine)..... 8,000

Dumarest Bros. & Co. (Fine)..... 1,000

G. Amsinck & Co. (Fine)..... 1,000

OCTOBER 3.—By the *Prinz August Wilhelm*=Colon: Colón: G. Amsinck & Co. (Fine)..... 18,000

A. Rosenthal & Sons (Fine)..... 3,000

Wessels, Kulenkampff & Co. (Fine)..... 1,500

S. Elias Abdad (Fine)..... 1,000

OCTOBER 5.—By the *Celtic*=Liverpool: Henderson & Korn (Fine)..... 9,000OCTOBER 3.—By the *El Dorado*=Galveston: Continental-Mexican Co. (Fine)..... *37,000OCTOBER 5.—By the *Panama*=Colon: Pottberg Eberling Co. (Fine)..... 13,000

G. Amsinck & Co. (Fine)..... 4,000

R. Castillo & Co. (Fine)..... 2,000

Hirzel, Feltman & Co. (Fine)..... 1,500

Pablo Calvet & Co. (Fine)..... 1,000

OCTOBER 5.—By the *Segurana*=Frontera: E. Steiger & Co. (Fine)..... 5,000

Harburger & Stack (Fine)..... 4,500

Isaac Kubie & Co. (Fine)..... 2,500

Mecke & Co. (Fine)..... 1,500

For Hamburg (Fine)..... 2,000

OCTOBER 7.—By the *Rochambeau*=Havre: Arnold & Zeiss (Fine)..... 13,500OCTOBER 8.—By the *El Norte*=Galveston: Continental-Mexican Rubber Co. (Fine)..... *65,000

A. Hirsch & Co. (Fine)..... 5,000

W. Williamson & Co. (Fine)..... 1,500

A. Helde (Fine)..... 1,000

R. Castillo & Co. (Fine)..... 1,000

Kunhardt & Co. (Fine)..... 1,000

G. Amsinck & Co. (Fine)..... 1,000

A. Angel & Co. (Fine)..... 1,000

New York Commercial Co. (Fine)..... 11,500

OCTOBER 8.—By the *Guantanamo*=Tampico: Ed. Maurer (Fine)..... *155,000

Continental-Mexican Rubber Co. (Fine)..... *55,000

For Europe (Fine)..... *100,000 *310,000

OCTOBER 10.—By the *Clyde*=Colon: Isaac Brandon & Bros. (Fine)..... 12,000

G. Amsinck & Co. (Fine)..... 6,000

New York Commercial Co. (Fine)..... 4,000

Charles E. Griffin (Fine)..... 3,000

J. Sambrada & Co. (Fine)..... 2,000

F. Lapiedra (Fine)..... 2,000

A. Capen's Sons (Fine)..... 2,000

Gillespie Bros. & Co. (Fine)..... 1,000

Roldau & Van Sickle (Fine)..... 1,000

OCTOBER 10.—By the *Momus*=New Orleans: G. Amsinck & Co. (Fine)..... 2,500

A. N. Rotholz (Fine)..... 2,500

To Order (Fine)..... 7,000

OCTOBER 10.—By *El Cid*=Galveston: Charles T. Wilson (Fine)..... *20,000OCTOBER 10.—By the *Allianca*=Colon: F. Rosenstern & Co. (Fine)..... 4,000

G. Amsinck & Co. (Fine)..... 2,000

Pablo Calvet & Co. (Fine)..... 1,000

OCTOBER 14.—By the *Adriatic*=Liverpool: Henderson & Korn (Fine)..... 11,500

J. T. Johnstone (Fine)..... 9,000

Cowdry & Co. (Fine)..... 4,000

OCTOBER 14.—By the *Esperanza*=Vera Cruz: George T. Wilson (Fine)..... 4,500

Laguna Import Co. (Fine)..... 2,000

G. Amsinck & Co. (Fine)..... 1,000

George A. Alden & Co. (Fine)..... 8,500

OCTOBER 14.—By the *Santiago*=Tampico: Ed. Maurer (Fine)..... *95,000

New York Commercial Co. (Fine)..... *45,000

Arnold & Zeiss (Fine)..... *25,000 *165,000

OCTOBER 14.—By the *Portuguese Prince*=Bahia: J. H. Rossbach & Bros. (Fine)..... 20,000OCTOBER 15.—By the *Colon*=Colon: Laurence Johnson & Co. (Fine)..... 11,000

G. Amsinck & Co. (Fine)..... 9,000

J. Sambrada & Co. (Fine)..... 9,000

Isaac Brandon & Bros. (Fine)..... 6,500

Dumarest Bros. Co. (Fine)..... 4,000

Hirzel, Feltman Co. (Fine)..... 2,500

OCTOBER 17.—By the *Prins Joachem*=Colon: Manhattan Rubber Mfg. Co. (Fine)..... 3,000

Andean Trading Co. (Fine)..... 2,500

Wessels, Kulenkampff & Co. (Fine)..... 1,000

OCTOBER 17.—By the *President Grant*=Hamburg: A. Hirsch & Co. (Fine)..... 25,000

Ed. Maurer (Fine)..... *20,000 45,000

OCTOBER 18.—By the *Matanzas*=Tampico: Continental-Mexican Rubber Co. (Fine)..... *270,000

For Europe (Fine)..... *45,000 *315,000

OCTOBER 19.—By the *Baltic*=Liverpool: Arnold & Zeiss (Fine)..... 34,000OCTOBER 22.—By the *Albingia*=Columbia: B. Williamson & Co. (Fine)..... 5,000

Winter & Smillie (Fine)..... 1,500

A. Helde (Fine)..... 1,000

R. Castillo & Co. (Fine)..... 1,000

Kunhardt & Co. (Fine)..... 1,000

G. Amsinck & Co. (Fine)..... 1,000

A. Angel & Co. (Fine)..... 1,000

New York Commercial Co. (Fine)..... 11,500

OCTOBER 22.—By the <i>Advance</i> —Colon:	
G. Amsinck & Co.	5,000
Piza, Nephews & Co.	4,000
Pottberg Ebeling Co.	3,000
J. Sambrada & Co.	2,000
Pablo Calvet & Co.	2,000
Lanman & Kemp.	1,500
United Export Co.	1,500
Wessels, Kulenkampff & Co.	1,000
Dumarest Bros. & Co.	1,000
Silva Bussenius Co.	1,000
J. W. Wilson & Co.	1,000
	23,000
OCTOBER 22.—By the <i>Minnehaaka</i> —London:	
General Rubber Co.	45,000
OCTOBER 23.—By the <i>Prins Eitel Friedrich</i> —Colon:	
G. Amsinck & Co.	5,000
J. Sambrada & Co.	2,500
Mecke & Co.	2,500
Roldau & Van Sickel.	1,000
New York Commercial Co.	1,000
	12,000

AFRICAN.

POUNDS.

SEPTEMBER 16.—By the <i>St. Paul</i> —Liverpool:	
George A. Alden & Co.	75,000
General Rubber Co.	30,000
Ed. Maurer	13,500

SEPTEMBER 16.—By the *Amerika*—Hamburg:

Meyer & Brown.	28,000
George A. Alden & Co.	4,500
Henderson & Korn.	3,000

SEPTEMBER 17.—By the *Vaderland*—Antwerp:

George A. Alden & Co.	53,000
Meyer & Brown.	40,000
Robert Badenhop	8,000

SEPTEMBER 17.—By the *Chicago*—Havre:

Meyer & Brown.	60,000
Ed. Maurer	7,000

SEPTEMBER 17.—By the *Minneapolis*—London:

General Rubber Co.	22,500
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SEPTEMBER 17.—By the *Cincinnati*—Hamburg:

Meyer & Brown.	20,000
Ed. Maurer	34,000
General Rubber Co.	13,500
George A. Alden & Co.	3,000

SEPTEMBER 18.—By the *Caronia*—Liverpool:

Arnold & Zeiss.	78,000
Ed. Maurer	11,500
W. H. Stiles.	3,500

SEPTEMBER 21.—By the *Campania*—Liverpool:

Raw Products Co.	11,000
George A. Alden & Co.	6,000
Ed. Maurer	5,000

SEPTEMBER 21.—By the *Kaisser Auguste Victoria*—Hamburg:

Ed. Maurer	18,000
Henderson & Korn.	11,500
Charles T. Wilson.	8,000
George A. Alden & Co.	5,000
Meyer & Brown.	4,500

SEPTEMBER 26.—By the *Pennsylvania*—Hamburg:

General Rubber Co.	15,000
George A. Alden & Co.	4,500
Wallace L. Gough Co.	5,000
Raw Products Co.	3,500

SEPTEMBER 28.—By the *Cedric*—Liverpool:

George A. Alden & Co.	5,500
James T. Johnstone.	5,500

SEPTEMBER 30.—By the *St. Louis*—London:

General Rubber Co.	15,000
Charles T. Wilson.	7,000

OCTOBER 1.—By the *Carmania*—Liverpool:

Meyer & Brown.	11,000
Ed. Maurer	5,000

OCTOBER 1.—By the *Niagara*—Havre:

Meyer & Brown.	20,000
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OCTOBER 1.—By the *Cleveland*—Hamburg:

Ed. Maurer	56,000
Arnold & Zeiss.	34,000
Rubber Trading Co.	13,500
Robert Badenhop	11,000

OCTOBER 2.—By the *President Lincoln*—Hamburg:

Meyer & Brown.	70,000
Charles T. Wilson.	8,000
Ed. Maurer	5,000
Raw Products Co.	3,500
James T. Johnstone.	3,000

OCTOBER 2.—By the *Lapland*—Antwerp:

Meyer & Brown.	45,000
Rubber Trading Co.	15,000
Henderson & Korn.	5,500
L. Blitz	3,000

OCTOBER 7.—By the *New York*—London:

General Rubber Co.	11,000
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OCTOBER 11.—By the *Patricia*—Hamburg:

Arnold & Zeiss.	45,000
Meyer & Brown.	34,000

General Rubber Co.

13,500

Wallace L. Gough Co.	15,000
George A. Alden & Co.	13,500
Robert Badenhop	7,000
Ed. Maurer	11,500

OCTOBER 14.—By the *Adriatic*—Liverpool:

Arnold & Zeiss.	11,500
Ed. Maurer	11,000
Rubber Trading Co.	9,000
Wallace L. Gough Co.	31,500

OCTOBER 15.—By the *Chicago*—Havre:

Meyer & Brown.	40,000
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OCTOBER 15.—By the *Vaderland*—Antwerp:

Meyer & Brown.	22,500
General Rubber Co.	22,500
Robinson & Co.	15,000
Arnold & Zeiss.	11,000

OCTOBER 15.—By the *President Grant*—Hamburg:

Ed. Maurer	25,000
George A. Alden & Co.	25,000
Meyer & Brown.	22,500
Rubber Trading Co.	9,000

OCTOBER 15.—By the *President Grant*—Hamburg:

George A. Alden & Co.	2,500
Arnold & Zeiss.	1,500
Ed. Maurer	1,000
Wallace L. Gough Co.	114,500

OCTOBER 17.—By the *Baltic*—Liverpool:

Arnold & Zeiss.	7,000
Henderson & Korn.	3,500
George A. Alden & Co.	2,500
Ed. Maurer	13,000

OCTOBER 19.—By the *Philadelphia*—London:

General Rubber Co.	9,000
J. T. Johnstone.	20,000
Ed. Maurer	12,500
Arnold & Zeiss.	10,000

OCTOBER 19.—By the *Vaderland*—Antwerp:

Meyer & Brown.	56,000
September 17.—By the <i>Minneapolis</i> —London:	161,000
General Rubber Co.	90,000
J. T. Johnstone.	20,000

OCTOBER 19.—By the *Cincinatti*—Hamburg:

Meyer & Brown.	6,000
Ed. Maurer	4,500
Haebler & Co.	7,000
Arnold & Zeiss.	17,500

OCTOBER 19.—By the *Oceanic*—London:

Arnold & Zeiss.	110,000
New York Commercial Co.	30,000
Henderson & Korn.	22,500
Charles T. Wilson.	11,500

OCTOBER 19.—By the *Rheinfels*—Colombo:

Meyer & Brown.	100,000
Ed. Maurer	16,000
New York Commercial Co.	16,000
L. Blitz	3,500

OCTOBER 20.—By the *Rheinfels*—Colombo:

Meyer & Brown.	100,000
Ed. Maurer	15,000
New York Commercial Co.	15,000
In Transit	15,000

OCTOBER 20.—By the *Oceanic*—Singapore:

Ed. Maurer	68,00
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No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

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Automobile Mats	Bumpers
	Radiator Hose

THE B & R RUBBER COMPANY
NORTH BROOKFIELD, MASS.

OCTOBER 15.—By the <i>Vaderland</i> —Antwerp:	*85,000
Meyer & Brown	
OCTOBER 15.—By the <i>Minneapolis</i> —London:	
New York Commercial Co.	*175,000
Raw Products Co.	*45,000
Charles T. Wilson	*35,000
L. Littlejohn & Co.	*7,000 *262,000
OCTOBER 17.—By the <i>St. Paul</i> —London:	
New York Commercial Co.	*35,000
Ed. Maurer	*30,000
Robinson & Co.	*11,500
Meyer & Brown	*4,500 *81,000
OCTOBER 18.—By the <i>Kansas</i> —Singapore:	
Ed. Maurer	*70,000
General Rubber Co.	*22,500
L. Littlejohn & Co.	*22,500
Wallace L. Gough Co.	*2,000
J. Warren Bird	*7,000 *124,000
OCTOBER 21.—By the <i>Philadelphia</i> —London:	
Arnold & Zeiss	*135,000
New York Commercial Co.	*22,500
Robinson & Co.	*18,000
Meyer & Brown	*11,500
Henderson & Korn	*11,000
Robinson & Co.	11,000 209,000
OCTOBER 21.—By the <i>Kabinga</i> —Colombo:	
New York Commercial Co.	*90,000
Meyer & Brown	*70,000
Ed. Maurer	*11,000
L. Blitz	*9,000
R. Badenhop	*7,000 *187,000
OCTOBER 23.—By the <i>Kroonland</i> —London:	
Meyer & Brown	*45,000
OCTOBER 23.—By the <i>Minnehaha</i> —London:	
General Rubber Co.	*450,000
New York Commercial Co.	*100,000
Ed. Maurer	*50,000
Charles T. Wilson	*50,000
Raw Products Co.	*11,500
J. T. Johnstone	*11,000
L. Littlejohn & Co.	*7,000
R. Badenhop	*7,000
General Rubber Co.	*45,000 *731,500

BALATA.	POUNDS.
SEPTEMBER 17.—By the <i>Coppername</i> —Demerara:	
Middleton & Co.	13,500
J. P. Watson	9,000
Gillespie Bros. & Co.	4,500
Ed. Maurer	7,000
George A. Alden & Co.	3,500 37,500
SEPTEMBER 23.—By the <i>Mayaro</i> —Trinidad:	
Schutte Bunemann & Co.	11,500
Suzarte & Whitney	1,500 13,000
SEPTEMBER 28.—By the <i>Advance</i> —Colon:	
M. A. DeLeon Co.	10,000

SEPTEMBER 30.—By the <i>St. Louis</i> —London:	11,000
OCTOBER 1.—By the <i>Saramaca</i> —Demerara:	
G. Amsinck & Co.	25,000
Middleton & Co.	15,000
American Trading Co.	7,000
Ed. Maurer	7,000 54,000
OCTOBER 8.—By the <i>Marowijne</i> —Demerara:	
George A. Alden & Co.	7,000
Gillespie Bros. & Co.	5,500 12,500
OCTOBER 15.—By the <i>Colon</i> —Colon:	
M. A. DeLeon Co.	5,000
OCTOBER 15.—By the <i>Coppername</i> —Demerara:	
George A. Alden & Co.	27,000
Ed. Maurer	15,000
Middleton & Co.	13,500
J. P. Watson	11,500
Gillespie Bros. & Co.	2,000
Suzarte & Whitney	2,000 71,000

GUTTA-JETULONG.

POUNDS.

SEPTEMBER 23.—By the <i>Oceanic</i> —Singapore:	
L. Littlejohn & Co.	750,000
Arnold & Zeiss	155,000
Haebler & Co.	300,000
Wallace L. Gough Co.	125,000 1,330,000
OCTOBER 5.—By the <i>Indramaya</i> —Singapore:	
L. Littlejohn & Co.	450,000
Haebler & Co.	250,000 700,000
OCTOBER 14.—By the <i>Indrawadi</i> —Singapore:	
L. Littlejohn & Co.	1,100,000
Wallace L. Gough Co.	350,000
George A. Alden & Co.	55,000
Haebler & Co.	300,000 1,805,000
OCTOBER 15.—By the <i>Indradiana</i> —Singapore:	
L. Littlejohn & Co.	200,000
OCTOBER 16.—By the <i>Atholl</i> —Singapore:	
L. Littlejohn & Co.	400,000
Haebler & Co.	350,000 750,000

GUTTA-PERCHA.

POUNDS.

SEPTEMBER 17.—By the <i>Cincinnati</i> —Hamburg:	
Robert Soltau & Co.	9,000
SEPTEMBER 23.—By the <i>Oceanic</i> —Singapore:	
Haebler & Co.	50,000
SEPTEMBER 26.—By the <i>Pennsylvania</i> —Hamburg:	
Robert Soltau & Co.	9,000
OCTOBER 15.—By the <i>Intradiana</i> —Singapore:	
L. Littlejohn & Co.	34,000
OCTOBER 17.—By the <i>President Grant</i> —Hamburg:	
Robert Soltau & Co.	9,000

BOSTON ARRIVALS.

POUNDS.

AUGUST 12.—By the <i>Walton Hall</i> —Singapore:	
State Rubber Co. (Ceylon)	32,000
State Rubber Co. (Jelutong)	100,000
L. Littlejohn & Co. (Jelutong)	1,300,000
Geo. A. Alden & Co. (Jelutong)	110,000 1,542,000
AUGUST 15.—By the <i>Egmont</i> —Singapore:	
L. Littlejohn & Co. (Jelutong)	900,000
Geo. A. Alden & Co. (Jelutong)	168,000
State Rubber Co. (Jelutong)	67,000
L. Littlejohn & Co. (Gutta-Percha)	22,500 1,157,500
AUGUST 18.—By the <i>Oceana</i> —Singapore:	
State Rubber Co. (Jelutong)	177,000
Geo. A. Alden & Co. (Jelutong)	140,000
L. Littlejohn & Co. (Jelutong)	55,000 372,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—AUGUST, 1912.

Imports:	Pounds.	Value.
India-rubber	7,767,798	\$6,474,953
Balata	57,513	35,795
Guayule	913,334	341,123
Gutta-percha	60,422	13,718
Gutta-jelutong (Pontianak)	3,851,123	214,448
Total	12,650,190	\$7,980,037

Exports:	Pounds.	Value.
India-rubber	75,553	\$56,445
Balata	29,158	22,740
Reclaimed rubber	55,578	9,360
Rubber scrap, imported	2,726,236	\$233,209
Rubber scrap, exported	370,687	54,150

PORT OF NEW YORK—SEPTEMBER, 1912.

Imports:	Pounds.	Value.
India-rubber	9,005,170	\$7,804,430
Balata	196,444	126,488
Guayule	375,761	152,107
Gutta-percha	30,307	14,223
Gutta-jelutong (Pontianak)	1,690,539	81,598
Total	11,298,221	\$8,178,846
Exports:		
India-rubber	14,300	12,812
Balata	9,642	4,800
Guayule	23,942	17,612
Reclaimed rubber	70,839	11,258
Rubber scrap, imported	1,656,387	138,755
Rubber scrap, exported	331,862	55,303

EXPORTS OF INDIA-RUBBER FROM PARA FOR AUGUST, 1912 (IN KILOGRAMS).

NEW YORK.

EUROPE.

GRAND TOTAL.

EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	GRAND TOTAL.
Zarges, Berringer & Co.	85,915	20,056	149,877	57,233	313,081	70,673	1,166	51,649	27,071	150,559	463,640
Ad. H. Alden, Ltd.	58,088	12,382	38,746	52,433	161,649	34,850	3,060	11,190	.....	49,100	210,749
General Rubber Co. of Brazil	24,872	2,753	37,216	30,753	95,594	3,450	650	160	.....	4,260	99,854
Suarez Hermanos & Co., Ltd.	284	.....	.....	284	47,277	873	5,561	5,461	59,172	59,456	
R. O. Ahlers & Co.	15,940	2,479	15,205	33,624	42,217	1,390	21,842	9,847	.....	75,296	108,920
De Lagotellier & Co.	36,890	4,590	29,040	280	70,800	.....	.....	.....	.....	.....	70,800
Pires Teixeira & Co.	7,310	680	8,910	.....	16,900	.....	.....	.....	.....	.....	16,900
Syndicate J. Marques	238,158	58,390	190,350	300	487,198	146,240	27,520	12,000	27,850	213,610	700,808
J. Marques	37,097	5,345	15,501	.....	57,943	24,468	2,519	13,128	4,533	44,648	102,591
Sundry exporters	1,190	.....	3,630	.....	4,820	.....	.....	1,650	280	1,930	6,750
Itacoatiara, direct	.....	.....	.....	.....	8,400	900	5,300	.....	.....	14,600	14,600
Total, August, 1912.	505,744	106,675	488,475	140,999	1,241,893	377,575	38,078	122,480	75,042	613,175	1,855,068
Manaos, direct	200,371	34,534	44,558	29,295	308,758	350,578	32,609	57,685	72,990	513,862	822,620
Iquitos, direct	.....	.....	.....	.....	43,518	11,182	6,818	19,338	80,856	80,856	
Total, July, 1912.	706,115	141,209	533,033	170,294	1,550,651	771,671	81,869	186,983	167,370	1,207,893	2,758,544
Total, January-June, 1912.	579,011	117,387	324,108	160,593	1,181,099	589,286	58,728	185,106	479,399	1,312,519	2,493,618
Total, January-June, 1912.	4,409,232	1,064,132	3,562,570	2,071,223	11,107,157	6,251,126	744,600	1,479,253	3,316,123	11,791,102	22,898,259

EXPORTS OF INDIA-RUBBER FROM MANAOS FOR AUGUST, 1912 (IN KILOGRAMS).

NEW YORK.

EUROPE.

GRAND TOTAL.

EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	GRAND TOTAL.
Zarges, Ohlinger & Co.	41,055	12,480	9,079	114	62,728	163,677	15,157	22,662	43,610	245,106	307,834
Adelbert H. Alden, Ltd.	57,207	18,303	16,294	6,316	98,120	.....	.....	.....	.....	.....	105,081
General Rubber Co. of Brazil	.....	.....	.....	.....	.....	61,301	7,267	5,956	7,406	82,430	
Ahlers & Co.	13,473	2,708	4,566	3,030	23,777	65,479	5,562	9,885	4,069	84,995	108,772
De Lagotellier & Co.	.....	.....	.....	.....	.....	25,574	3,755	6,063	3,422	38,814	38,814
Mesquita & Co.	.....	.....	.....	.....	.....	125	.....	270	82	477	477
W. Peters & Co.	.....	.....	.....	.....	.....	160	.....	1,330	5,260	6,750	6,750
Associação Comm. do Amaz. Co.	26,434	.....	.....	3,471	29,905	.....	.....	7,000	550	25,350	25,350
H. Balong	.....	.....	.....	.....	.....	17,800	.....	.....	670	.....	670
Carlos Montenegro & Co.	.....	.....	.....	.....	.....	.....	.....	.....	670	.....
Iquitos, direct	138,169	33,491	29,939	12,931	214,530	334,616	31,741	53,836	71,360	491,553	706,083
De Iquitos, direct	56,570</td										



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Rubber Scrap Prices.

LATE NEW YORK QUOTATIONS.—Prices paid by consumers for carload lots, per pound—are practically unchanged.

	October 30.
Old rubber boots and shoes—domestic.....	9½@ 9¾
Old rubber boots and shoes—foreign.....	9½@ 9¾
Pneumatic bicycle tires.....	4¾@ 5
Automobile tires.....	9½@ 9¾
Solid rubber wagon and carriage tires.....	9½@ 9¾
White-trimmed rubber.....	11 @ 11½
Heavy black rubber.....	4¾@ 5
Air brake hose.....	5¾@ 6
Garden hose.....	1½@ 1½
Fire and large hose.....	2 @ 2½
Matting.....	¾@ 3½

Liverpool.

William Wright & Co. report [October 1]:

Fine Ford.—Prices have been gradually declining throughout the month. There is no doubt that the large plantation supplies are making themselves felt; in addition to which, we have in the near future heavy arrivals in prospect. With liberal supplies of plantation—which manufacturers can use as an alternative grade—we fail to see how prices of fine can command a premium, especially when the extra washing loss has to be taken into account. Receipts for the month are 2,620 tons, including 290 tons Cauchio, against 1,900 tons last month, and 2,640 tons last year; totaling 6,460 tons, against 5,650 tons last year.

Antwerp.

RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1912.	1911.	1910.	1909.	1908.
Stocks, August 31. <i>kilos</i>	475,572	522,401	536,560	244,851	874,514
Arrivals in September:					
Congo sorts.....	472,624	209,265	211,578	334,265	142,743
Other sorts.....	21,610	24,370	17,333	58,815	31,658
Plantation sorts.....	144,736	72,778	42,131	15,389	15,023
Aggregating.....	1,114,542	828,814	807,602	653,320	1,063,938
Sales in September.....	406,415	393,269	226,694	255,866	409,777
Stocks, September 30.....	708,127	435,545	580,908	397,454	654,161
Arrivals since January 1:					
Congo sorts.....	2,449,414	2,350,081	2,350,698	2,659,293	3,095,954
Other sorts.....	117,338	343,019	262,114	718,936	480,101
Plantation sorts.....	982,078	493,527	416,583	192,924	87,107
Aggregating.....	3,548,830	3,186,627	3,029,395	3,571,153	3,663,163
Sales since January 1.....	3,515,241	3,339,394	2,989,997	3,769,434	4,015,896

RUBBER ARRIVALS FROM THE CONGO.

SEPTEMBER 24.—By the steamer <i>Bruxellesville</i> :	
Bunge & Co.....	(Société Générale Africaine) <i>kilos</i>
do.....	(Chemins de fer Grande Lacs) 26,000
do.....	(Comptoir Commercial Congolais) 6,800
do.....	(Belgika) 12,900
do.....	(Alberta) 600
do.....	(Comfina) 300
Société Coloniale Anversoise.....	(Alliment. du Bas Congo) 100
do.....	(Lomami) 2,500
do.....	(Cie du Kasai) 87,500
do.....	(Haut Congo) 8,800
L. & W. Van de Velde.....	(Comina) 23,600
do.....	4,200
Charles Dethier.....	(American Congo Co.) 3,900
do.....	2,200
Willaert Frères.....	5,000 184,900

Plantation Rubber from the Far East.

EXPORTS OF CEYLON-GROWN RUBBER.

[From January 1 to September 21, 1911 and 1912. Compiled by the Ceylon Chamber of Commerce.]

	1911.	1912.
To Great Britain.....	pounds 2,098,634	4,797,015
To United States.....	1,270,529	2,677,659
To Belgium.....	444,151	759,068
To Australia.....	27,614	138,874
To Germany.....	24,516	125,942
To Austria.....	1,375	45,693
To Japan.....	39,767	21,139
To Canada.....	12,067	16,065
To Italy.....	3,597	5,909
To Russia.....	...	2,288
To Holland.....	3,448	2,282
To France.....	117	2,017
To India.....	85	100
To Norway and Sweden.....	...	39
To Africa.....	35	...

3,925,935 8,594,090

[Same period 1910—2,001,719 pounds; same 1909—869,018.]

Rotterdam.

HAVELAAR & DE VRIES report [October 11]:

In today's sales about 55 tons were offered, including 37 tons Congo and 12 tons *Hevea*. Competition was very good, but prices, owing to the lower state of the market, did not reach those of the valuations. Congos averaged 3 per cent. below valuations and plantation rubber 5 per cent. below. Congos were to a large extent bought in, while the plantation grades were nearly all sold.

Amsterdam.

JOOSTEN & JANSEN, AMSTERDAM, September 20, 1912.

Notwithstanding the brisk demand at today's inscription sale, prices were in general a good deal below valuations. The downward movement was, however, not as marked as had been expected, in view of the fall which had occurred in London since valuations were made up. Out of the 65 tons offered, about 51 were sold at 5 to 7 per cent. below valuations. The results showed 5 per cent. reduction on *Hevea* and 7 per cent. on *Picus* and *Costilloa*.

WEEKLY MOVEMENT OF LONDON PRICES.

[IN SHILLINGS AND PENCE PER POUND:]				
May 3, 1912.....	4/7½	August 2, 1912.....	4/11	
May 10.....	4/7½	August 9.....	5/0½	
May 17.....	4/7½	August 16.....	5/0½	
May 24.....	4/7½	August 23.....	5/2	
May 31.....	4/7½	August 30.....	5/1½	
June 7.....	4/8½	September 6.....	4/11½	
June 14.....	4/10	September 13.....	4/9½	
June 21.....	4/9½	September 20.....	4/8	
June 28.....	4/7½	September 27.....	4/7	
July 5.....	4/9	October 4.....	4/7	
July 12.....	4/10	October 11.....	4/7	
July 19.....	4/10	October 18.....	4/6½	
July 26.....	4/11½	October 25.....	4/6	

